

Four Dollars

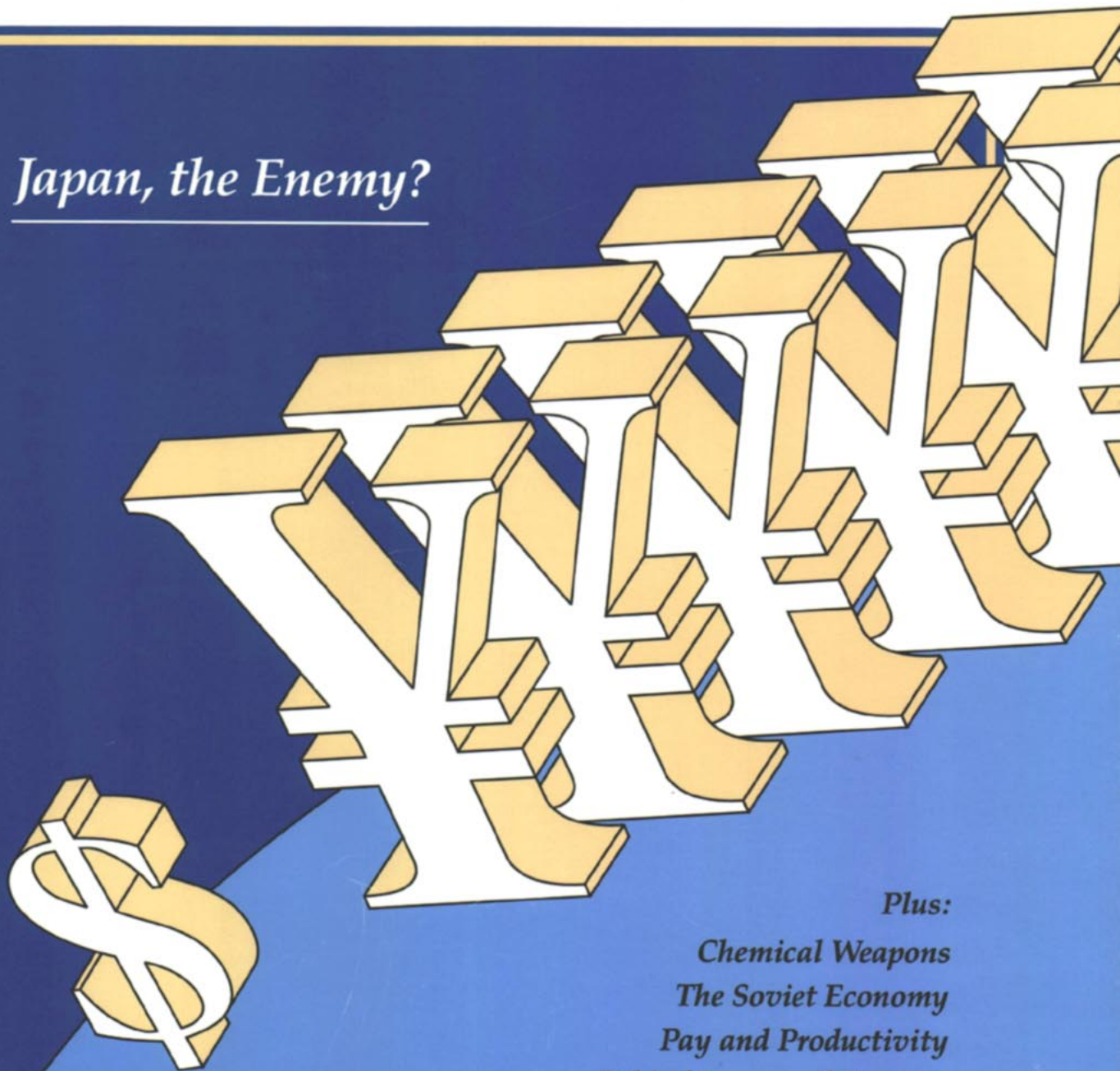
T H E

Winter 1989/90

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Cover illustration by Robert Wisner

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Leveling the Olympic Playing Field

It is clear from the article *Fool's Gold: How America Pays to Lose in the Olympics* (Fall 1989) that the United States pays a highly disproportionate share for the rights to televise the Olympics compared with other nations. Unfortunately, very little of this money is used to help America's athletes.

Young Americans who aspire to compete in the Olympics should enjoy the same competitive training advantages given to foreign athletes. It appears that by paying an excessive amount for broadcast rights, U.S. television networks are in effect subsidizing the training costs of foreign athletes and the staging of the games themselves.

Bob Lawrence and Jeff Pellegrom suggest a feasible arrangement that could resolve this inequity and go a long way toward ensuring that our young athletes enjoy the same benefits afforded others. Their approach is certainly worth serious consideration. I look forward to participating in its development.

Bill Bradley
U.S. Senator, New Jersey

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Japan, the Enemy?

Philip H. Trezise

Does Japanese economic competition present a greater threat to American security than Soviet military power? Is Japan a “systematically predatory actor” on the international economic scene? Is it an authoritarian state under irresponsible and corrupt rule? Must we devise a new policy to “contain” a rogue Japan? Is it time for the Pentagon to draw up plans for an eventual war with Japan?

According to opinion polls, a majority of Americans say yes to the first of these questions. Many supposedly well-informed people also respond affirmatively to the next three. The idea of planning for a war with Japan is no doubt remote from most Americans’ minds, but it is said to be whispered among those whose profession is to reflect on the contingencies of the future.

To be sure, the actual state of U.S.-Japan relations is less bleak than the news media or the magazine and book authors would have it. The situation is not analogous to the second half of the 1930s. Japan is not rampaging in China or anywhere else. Official relations between Japan and the United States remain close and in the main cordial. Although squabbles over trade

policy are chronic, each side treats the other with reasonable regard for the civilities. The American public may view Japan’s economic accomplishments and capacities with alarm, but it does not boycott Japanese goods, rather the contrary.

Still something is very wrong with the domestic dialogue. In Congress Japan-bashing is obviously considered to be an appropriate and electorally risk-free activity. Little consideration seems to be given to the thought that any serious rift between the world’s two largest economies would hurt mutual and global welfare. That the U.S.-Japanese military alliance has been a force for stability in East Asia for nearly four decades goes largely unspoken, while Japan’s low defense budget is a standard target for attacks (*see box, page 6*). And the current polemics carry an undercurrent of racism, not overwhelming, perhaps, but not pleasant either.

Yet on any rational calculation, economic competition from Japan does not threaten America’s national security. If Japanese government and industry engage in conduct contrary to international rules or norms, ample legal, administrative, and economic remedies are available. Japan’s democracy has its warts, as whose does not, but it functions effectively in a society that is in all fundamentals free (*see box, page 10*). “Containing” Japan is the offering of a journalist who sees American vulnerabilities that do not exist. Another Pacific war? More remote eventualities can be imagined, but not readily.

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These are assertions. Let us see if they can be fortified with argument and facts.

Deficits and Debt

Current problems between the two countries obviously derive principally from their economic relationship. That has been the case virtually since the signing of the peace treaty in 1951. The difference today is that the relations are more complex and the interdependence of the two economies is much greater. Whether this greater involvement threatens our well-being is quite another matter.

Some see a threat in our trade imbalance with Japan. The U.S. external deficit has been running at unprecedented heights. Foreign trade in goods accounts for the largest part, and of that, trade with Japan stands out. The total trade deficit peaked in 1987 at \$159.5 billion; 36 percent represented the deficit with Japan. The U.S. trade deficit with the world promises to be more nearly \$100 billion in 1989, while Japan's share is likely to be close to 50 percent. Inevitably, the size and the seemingly intractable character of Japan's trade surplus with us has been politicized. Thus Representative Richard A. Gephardt in 1988 almost succeeded in writing into law a provision penalizing nations with "excessive" trade surpluses, to wit, Japan.

A deficit must be covered by borrowing, and the United States has quickly acquired the world's largest-ever external debt, currently estimated at half a trillion dollars, much of it owed to Japan. A relatively small part of the Japanese-owned assets in the United States is in the form of real estate and industrial plant. It turns out, however, that Americans are no less prone than Europeans, Canadians, Mexicans — and Japanese — to anxieties at observing that land, office buildings, and factories are being bought or built by foreigners. Other, less visceral, concerns arise about the much greater sum of foreign capital invested in Treasury securities and the bond and stock markets. Taken together these debts provide another element in what has become, at a minimum, a worrisome matter of international public relations.

Underlying all else is the perception that Japan's trade and economic policies are unfair. It is a perception that finds support in a mass of anecdotal material and in a few more rigorous studies of the trade data. In the popular version, Japan's market is said to be closed to American exports while Japanese exports have flourished in the American market. The government of Japan is supposed to subsidize and otherwise coddle the export industries, with special attention to the now and future high-technology sectors. Credit for business and industry is cheap because the Ministry of Finance and the Bank of Japan will it so, mainly in the interest of exports. Although Japanese firms can readily establish themselves in the United

*The United States does have
problems in its economic
relations with Japan. Not all
of them are trivial. But do they
make Japan a . . .*



States, American businesses encounter high barriers to entry into Japan. The catalogue of the imputed offenses against fairness is extensive. It unquestionably has achieved a wide measure of acceptance.

Well, the U.S. external deficit is real, the growing debt to foreigners is breathtakingly large, and critical views of Japanese economic policies and practices are not always, as some Japanese insist, self-serving or based on misunderstandings. The United States does have problems in its economic relations with Japan, not all of them trivial.

But do those problems make Japan a consequential, not to say a mortal, danger to American interests or security? Has the Japanese economic miracle, once looked upon as witness to the wisdom of U.S. post-



*. . . danger to American
interests or security?
Or have we in fact
magnified these problems
out of all proportion?*

war policy, brought into being a monster?

If the foreign deficit is part of the case against Japan, then one must ask how it came about and what damage it has wrought.

In a sense the deficit, which began its surge in 1982, was intended by nobody and caused by everybody. Before 1982 U.S. deficits on merchandise trade (themselves a phenomenon that did not appear in this century until the 1970s) normally were balanced or overbalanced by earnings from American investments abroad. After the 1981 tax cuts and the subsequent unplanned federal budget deficits, the overall external deficit — goods and services — soared (from less than \$9 billion in 1982 to \$153 billion in 1987), driven by a rapidly rising

trade imbalance and a declining net position on returns from foreign investments.

Conventional wisdom, which in this case is also true wisdom, says that these developments reflected higher rates of savings and fewer desirable investment opportunities abroad than in the United States. Private savings rates in the United States have been among the lowest in the industrial world. The post-1981 federal budget deficits preempted for government use a historically large part of these savings, three-fifths between 1984 and 1988. Shrinking domestic savings and the growing demand for investment pushed up real interest rates and drew foreign savings to U.S.

Would a Rearmed Japan Really Help Our Economy?

Japan's defense budget has long been a bone in the throat for many Americans, most especially Americans serving in Congress. For rich Japan to be spending only 1 percent of its gross national product on its military appears to be a prime example of unfairness when the United States carries the burden of global defense at a cost, nowadays, of some 6 percent of national output. More galling still, defense on the cheap is considered to have contributed importantly to Japan's ability to run its massive trade surpluses.

Congress has toyed with various dubious proposals for remedying this situation, while official policy has been to seek larger Japanese military outlays, in the interest of the common defense. In the 1980s Japanese governments have made appreciable responses to U.S. importunities but not to the satisfaction of those asking for a heavily armed Japan. Nor has the outcome been to our disadvantage.

Under the mutual security treaty, the United States has had a sizable military presence in Japan since 1951. The treaty was already a controversial political issue when it was negotiated during the Korean war. Japan's negotiators agreed to it only with the under-

standing that Japan would have no obligation paralleling the implicit U.S. commitment to help defend Japan against armed attack. During the 1950s the treaty continued to be a sensitive subject in Japanese politics. In 1960 controversy over ratification of a revised treaty drove a prime minister from office. The revision, ironically, met many of the objections to the original's extraterritorial features.

Time and changes in the Asian scene have reconciled most Japanese to the treaty. In particular, fears have receded that Japan might be drawn, willy-nilly, into war with China or the USSR. The American bases in Japan, while hardly popular, have been accepted by majority party politicians as being the practical face of the U.S. security guarantee.

In the eyes of the U.S. national security establishment, the mutual defense relationship has made Japan a "pillar" of Asian policy. The war in Korea, which quickly became a war with Communist China, could not have been conducted without Japan as a staging base and supply center. Over the years the great naval base at Yokosuka, home port to the 7th Fleet, has been an essential piece in our forward strategy in Northeast Asia.

In more recent times, Japanese

inhibitions about cooperating with the United States have diminished. Joint exercises and joint planning with American forces go on more or less routinely. Japan currently pays 40 percent of the local costs of U.S. forces stationed there, a share that is due to be increased. And since 1983 Japan has excepted the United States from its policy against the export of arms or military-related technology.

Still, Japan remains the unusual case of a major nation with a very circumscribed view of its military requirements. Its constitution, as interpreted by the courts, allows defensive armaments only. This stricture has been observed with some literalism, as when inflight fueling of fighter aircraft was rejected because it supposedly would have given the plane an offensive capability. Self-Defense Force personnel are forbidden to serve abroad, even in United Nations peacekeeping units. The defense budget has risen steadily, tied more or less to GNP, but relative to Japan's economic capacity, it continues to be strikingly modest.

All this reflects both the government's defense strategy and the limited domestic constituency for larger scale rearmament. Theoretically, the constitution could be amended as some, mainly older,

financial markets. In the predictable course of events, this expanding demand for dollars caused the exchange value of the dollar to rise sharply. Just as predictable, the strong dollar attracted imports and put the export industries at severe disadvantage. Hence the massive trade deficits of the 1980s.

It can be and was argued that this sequence could have been slowed or interrupted if the high-savings countries — particularly Japan and Germany — had chosen to emulate the United States by using more of their peoples' savings for public purposes. Germany with very high unemployment and Japan with manifestly large unfilled needs for public facilities might have attacked these domestic issues by lifting the lid

on government spending, at the price of bigger budget deficits. They did not do so, for what they saw as compelling economic and political reasons. Had they indeed opted to absorb more of their nations' savings for domestic use, the U.S. consumption and investment boom could not have run unchecked. The practical choices would have been to do something real about cutting the budget deficit or living with interest rates that would have curbed the expansion.

These reflections are germane to the question of the trade deficit's effect on the national welfare. No one can doubt that the strong dollar of the early 1980s hurt U.S. export and import-competing industries. To workers who lost high-paying jobs in these industries,

politicians have wished. To date, all governments have prudently ignored the idea. Sectors of big business, aerospace for example, would like larger defense expenditures, but these views have not had broad and strong business support.

All the political parties save the Communist now give some degree of assent to the mutual security treaty and, more shakily still, to the American bases in Japan. But this consensus would be transformed into political crisis if there was a move to relax decisively the constitutional and popular constraints on the size and mission of the Self-Defense Forces.

Has Japan's military posture been adverse to American interests? It is certainly not evident that the alternative of a rapid buildup of Japanese forces would have served us as well. The alarm bells that would have been set off in South Korea, Southeast Asia, and Australia might have been quieted, though at the cost of additional U.S. guarantees. But China and the Soviet Union could hardly have reacted other than by raising the arms race ante in Northeast Asia for both the United States and Japan.

Japanese leaders have perceived these risks more clearly than our more vociferous "burden sharers." For Japan to have made so grave a decision would have been to opt for a far more independent foreign policy. Whether Japan could then

have forgone the nuclear weapon, with all its implications, is, fortunately, a question that has not needed an answer.

What of the economic benefits of the "free ride"? A major expansion of the Self-Defense Forces at any point would obviously have required a reallocation of Japan's resources. That might



have been easiest in the 1950s and perhaps in the early 1960s, when a very large body of underemployed and unemployed people was being drawn upon by an expanding economy. Had some of the expansion been directed to the armament industries, GNP growth could have remained the same.

Whether the export sector of that era would have suffered is uncertain. Surely, a new export industry would have emerged, for the government of a rearming Japan would have had to recognize the economic case for lifting the embargo on arms exports.

At more nearly full employment, where Japan has been much of the time since, a large boost in defense spending might well have squeezed the economy. Even that depends on what period is in question.

During the second half of the 1970s the Japanese authorities ran large fiscal deficits on Keynesian principles. If deficit spending had been directed to armaments, the necessary industrial adjustments could have been accomplished under relatively optimum circumstances. Again, it seems certain that a Japanese arms export industry would have developed, further expanding the world's supply of lethal machinery.

None of this is to say that more defense spending would be a boon to present-day, high-employment Japan. Some civilian consumption and investment would have to give way. Bottlenecks could appear in some industrial sectors. The country could ill afford to release young people from its increasingly tight labor force for soldierly pursuits.

But Japan's is a big and demonstrably adaptable economy. If the upward adjustments were phased in over several years, as would be reasonable, the adverse impact could be cushioned. For people in the United States to hope for competitive advantage over Japan via a rebirth of its military ardor would be unworthy, not to say invidious. It would also be a hope liable to disappointment.

it is little comfort that the national unemployment rate fell steadily to virtually full employment levels while total civilian employment grew at a very satisfactory pace. Nor, presumably, do managements pressured by foreign competition to restructure their companies look back with undiluted pleasure at the experience.

Nevertheless, it is the fact that the trade and overall deficits were accompanied by strongly rising employment and that the growth of productivity per man-hour in the American manufacturing industry from 1981 through 1987 was roughly one and one-half times the 1948-81 average. The reality is that the capital inflow from Japan and elsewhere served to sustain American levels of investment that could not have

been reached otherwise. These were voluntary flows, made in response to explicable economic incentives. In short, the United States is richer and more productive because Japanese and other foreigners found it in their interest to send their excess savings here.

Some observers who are not given to demoniac views of foreign investment nonetheless worry that that capital inflows might substantially diminish well before American net savings have recovered. In that event, they speculate, interest rates would have to rise, precipitating a U.S. recession. That has not happened, and fears that it will have subsided. It could occur, though, which is one reason why public policy should be focused more than it is on our low savings.

A nonhypothetical reason for concern about U.S. reliance on foreign capital is the external debt that is the counterpart of the borrowing. Payments of interest and dividends on the debt must come out of current American income. In 1988 these payments exceeded \$100 billion, almost equaling receipts from accumulated U.S. investments abroad. This year the payments will exceed receipts. Clearly enough, the nation would be better off if these payments were made to other Americans rather than to foreigners. If Americans can cease accumulating debt — which means, remember, restoring the savings rate to more normal levels — disposable incomes will be the higher for it.

But it is well to recognize that the nation's capital stock is larger than it would have been without the foreign inflows that now constitute the external debt. The income generated by that larger stock provides the wherewithal to meet the costs of servicing the borrowings. While it is anomalous and perhaps immoral for the world's richest country to be absorbing so much of the world's savings, the United States is not in danger of being impoverished by the costs of carrying its debt.

Foreign Direct Investment

The presence of visible foreign investment seems to make for domestic uneasiness almost everywhere. What is troubling about that uneasiness in the United States is its focus on Japanese direct investment, which still lags behind the British. Some adverse reaction had to be expected as Japanese investors bought real estate in New York and Los Angeles, built auto plants in Ohio, Tennessee, Illinois, and Michigan, and took over textile mills in the Carolinas. The facts hardly warrant hysteria or even mild worry, however. We are not being "colonized" by Japan or anyone else.

The national wealth of the United States is estimated to be \$15 trillion. Assets — securities and direct investments in land, structures, and equipment — owned by foreigners at the end of 1988 were valued at \$1.3 trillion, or 8.7 percent. (U.S.-owned assets abroad were valued, actually undervalued, at \$700 billion.) Foreign direct investment in the United States was \$329 billion (slightly greater than the book value of U.S. direct investment abroad) or 2.2 percent of the nation's stock of resources exclusive of people. Japanese direct investments totalled \$53 billion, or slightly more than three-tenths of a percent of our national wealth. These are not numbers that would imply the imminent domination of American economic or political life by Japan or by foreigners generally.

It is not always recognized, either, that foreign firms establishing themselves in the United States become American firms, liable for American taxes, required to observe American laws and regulations, and subject to the peculiarities and pressures of American

community life. Their interest is to be seen as good corporate citizens here, as is true of American multinationals abroad. Their interest, and ours, is also that they be profitable, for that is the indicator that their and our resources are being used efficiently.

In 1985 a Japanese investor needed, on average, 238 yen to buy a dollar's worth of U.S. assets. In 1988 he needed only 128 yen. This depreciation of the dollar has led to complaints that Japan is buying into America on the cheap. But as depreciation has lowered the yen cost of acquiring land, facilities, and securities in the United States, it has equally lowered the yen income to be earned here. Japanese investors cannot have failed to observe this relationship. The reasons for the present flow of foreign investment into the United States are its good economic performance, its political stability, and, possibly, worries that its xenophobes may eventually succeed in writing laws that would block future inflows of capital.

Japan's Economic Inhospitability

That Japan itself has been less than hospitable to foreign investment is a further source of grievance — part and parcel of the more general indictment of the Japanese government and its businesses for allegedly ignoring claims to reciprocity and equal treatment or, in the more extreme form, for calculated economic aggression against the United States.

A full treatment of that indictment is beyond the scope or purpose of this essay. Some of its points should be mentioned, however. American direct investment in Japan was valued at \$17 billion in 1988. In the United Kingdom it was \$49 billion. Of course language and acquaintance favor investment in the U.K. But Japan's postwar economic growth was explosive, while the British economy stagnated. Had entry into Japan been as easy as into the U.K., more American firms would surely have overcome language and like barriers — as, of course, many did.

Japan's tariffs were drastically lowered in the 1970s and 1980s, and quota restrictions, except for agricultural imports, largely removed. Nevertheless, Europeans and Americans say the Japanese market is less open than those of the other major industrial powers. A persuasive piece of evidence is Japan's exceptionally low volume of imports of manufactured goods, relative to gross national product or as a share of total imports. Even after allowing for Japan's dependence on imports of foodstuffs, raw materials, and fuel, and for its distance from suppliers, the comparisons are striking. As recently as 1985, only a quarter of Japanese imports were in manufactures; in contrast, fully 70 percent of U.S. imports were manufactured goods. Japan's ratio of manufactures imports to GNP was 2.6 percent; in West Germany, which is also heavily dependent on imports of primary products, the ratio was 14.9 percent.

Since 1985 the strengthening yen has made foreign manufactures cheaper, and imports have risen; between 1985 and 1988 American exports of manufactures to Japan rose by 79 percent, compared with 49 percent to the rest of the world. Manufactures accounted for almost 50 percent of all of Japan's imports in 1988. Yet the ratio to national expenditure was less than half that of the United States, which itself is a modest importer in relation to GNP.

Why Japan's manufactured imports are comparatively low has been the subject of debate among economists, Japanese and American, with no fully conclusive answers. But anomalies in Japan's trade structure give credibility to the existence of an anti-import bias, whether enforced by custom or by rules and regulations.

An example: Japan is a very large importer of raw logs and a small importer of manufactures of wood, although its wood products manufacturing sector is not an obviously efficient processor of the raw materials; it ranks ahead only of apparel and leather in value added per worker. Similarly, Japan imports metal ores and concentrates in quantity, and metal manufactures and semi-manufactures in comparatively inconsiderable lots; no other industrial country exhibits this pattern of trade.

A reasonable assumption is that these seeming oddities (in economic terms) reflect a reluctance to accept the political costs that a contraction of these processing industries would entail. American admirers of Japan's industrial policies like to cite the readiness of the Ministry of Trade and Industry (MITI) to "phase out" aging, inefficient industries. This readiness is pure myth. Japan is no different from other countries in wishing to preserve established industries, and it may well be more diligent at pursuing that objective.

Japan is the largest foreign market for America's farmers. It is also a closed market for rice and a restricted market for a number of other agricultural commodities. These restrictions are required because most of Japanese agriculture is high cost and must be supported by public subsidies. Unrestricted imports would be budgetarily impossible.

Agricultural policy in Japan is unique only in the sense that the costs to taxpayers and consumers are relatively much higher than in other major countries. In some details it seems unusually excessive, however. Wheat is a crop poorly suited to Japan's small-scale farms. Wheat imports are sizable but in quantities carefully controlled to shield rice from undue competition.

In the 1970s, when surpluses caused a decision to retire land from rice production, the Ministry of Agriculture chose to offer truly extraordinary subsidies to farmers who would convert this land to wheat, soybeans, barley, or sugar beets, all import-displacing crops. In the case of wheat, a farmer eligible for all the available benefits could receive payments equal to 13

or 14 times the cost of foreign wheat delivered in Japan. This policy, which in its essentials continues today, actually brought only rather modest acreage into production of the heavily subsidized crops. What it seems to have represented was an unusually committed mindset against imports.

One of the counts in the foreign indictment of Japanese economic policies is the use of subsidies to foster selected industries, particularly the high-tech sectors. This is a much overdrawn matter. An overwhelming share of public subsidies goes to agriculture, followed, now that the money-draining national railways have been privatized, by energy and small business. The amounts going to industry may have served as useful catalysts for ventures targeted by MITI, semiconductors, for example, but they have been tiny in comparison with, say, the funds lavished on the Airbus or the Concorde in Europe. And a number of MITI's long-term targets have been missed altogether. Still, subsidies, together with other features of industrial policy, doubtless have helped to give some Japanese industries a competitive edge not otherwise attainable.

Other unfair or questionable practices are alleged. The industrial/banking groupings (*keiretsu*) — Mitsubishi, Mitsui, Sumitomo, et al. — are said to give preference to group members, perhaps particularly when the competing product or firm is foreign. Some people believe that the banking system, at government direction, subsidizes industry, or some sectors of industry, in the form of credit on below-market terms. These accusations are not easily substantiated. The second of them indeed seems to run counter to the increasing practice among major Japanese corporations of borrowing against their own commercial paper or in the Euromarkets rather than from the domestic banks.

The Price of Unfair Practices

Supposing, in any case, that at least a significant part of the total indictment has merit, what conclusions are to be drawn?

One is that the losers include those competitive foreign suppliers who encounter a protected and circumscribed market and would-be investors who are denied potentially profitable opportunities. Americans are very important among these losers, but they also number Europeans, Australians, Koreans, and so on. The economic penalties imposed on all of them detract from global welfare, as does protectionism anywhere.

More substantial losers still are the citizens of Japan. As consumers they pay higher-than-necessary prices and have a more limited range of choice. As taxpayers they are required to help finance activities that use the nation's resources wastefully. If they are among the country's efficient producers, they must

Japan and Democracy: Failed Experiment or Vision Fulfilled?

It would seem safe to say that among the major accomplishments of U.S. foreign policy after World War II have been the progress toward peaceful unification of Western Europe and the emergence of a stable political democracy in Japan. Our policies toward Europe and Japan, which required generosity of spirit and a long view of national interest, are commonly thought to have succeeded.

Now, however, we are informed that the Japanese case is not as represented. The reforms General MacArthur so earnestly promulgated after 1945 are said to have failed to produce the promised democracy. Instead we are told that Japan is a "system" of non-elected power centers allegedly unresponsive to the concerns of the majority of Japanese citizens and that it is therefore an essentially indigestible element in the community of democracies.

This revisionist argument, in its fullest form, has been developed to support a special and dubious conclusion: that because negotiating with Japan along conventional lines has often been frustrating, other ways of conducting official business with Japan must be devised. A number of proposals to this end have been floated in recent years. None has found favor in Washington or in other capitals.

Certainly no other democracy has disputed Japan's claim to democratic legitimacy.

About the forms of democracy there is no real question. True, Japan has had a one-party government for almost 35 years. But over that span the Liberal Democrats, a 1955 merger of two conservative parties, have gone to the polls no fewer than 11 times to contest for the (lower) House of Representatives, and more often still for the less important House of Councilors. The results of these elections have not been challenged.

Also true, the LDP has enjoyed significant advantages. It has benefited from a sizable gerrymander, in that rural districts have consistently been overrepresented in the Diet. It has had greater access to money than the opposition parties. More important, however, it has delivered, or been associated with, a rise in real standards of living that has had few if any counterparts in the postwar world. Japanese voters have had frequent opportunities to pass judgment on the LDP record. Not surprisingly, the verdicts have been affirmative.

But not uncritically so. The LDP's long tenure has been marred by periodic scandals, the most recent of which lost it a majority in the upper house. Factional divisions, which are only

occasionally about policy issues and mostly relate to costly intra-party struggles for power, contribute to an aura of LDP venality. From time to time, these frailties or unpopular policy proposals have brought electoral warnings that LDP majorities are not automatic. Three of the five elections held since the early 1970s found the LDP having to cobble together its Diet majorities with the help of independent or minor party votes.

A more credible opposition would have made the LDP's position more tenuous still. That opposition is divided among four parties, including the Communist. Largest is the Japan Socialist Party, which has offered a neutralist foreign/defense policy that most Japanese consider unrealistic and a domestic platform of considerable vagueness. Though it has moved toward the political center, its serious policy differences with the two other non-Communist opposition parties would make difficult the construction of a stable governing coalition led by the Socialists.

A party that wins genuine elections obviously has a claim to legitimacy. Moreover, the LDP's abuses of power have not been directed at democratic liberties. Japanese citizens remain free to speak, to demonstrate, to publish. The proliferation of printed mat-

absorb costs that reduce their returns and worsen their competitive positions.

An economists' aphorism says that a tax on imports is a tax on exports. The argument in essence says that protection raises general money wages. Sectors producing import substitutes or wholly domestic goods can pass on the higher wage costs to consumers. The export industries, facing a world market, cannot, so profits and employment in the export sector decline. In brief, protection diverts resources from export sectors, actual or potential, to sectors where they are or will be used less efficiently. The long-run effect on economic growth is, of course, negative. As remaining protection comes down, Japan's export in-

dustries will be the stronger for it. Any improvement in the U.S. trade balance to be gained from greater access to Japan's market is thus likely to be for the short term. A lasting change in the Japanese trade surplus will depend on changes in relative savings/investment ratios.

Nevertheless, a Japan that imports more and exports more is to be desired. The United States has been right to seek greater market access and not only because U.S. exporters stand to benefit. To the extent that Japan is more protectionist than other countries, its contribution to world economic growth and welfare, considerable as it surely has been, is below potential.

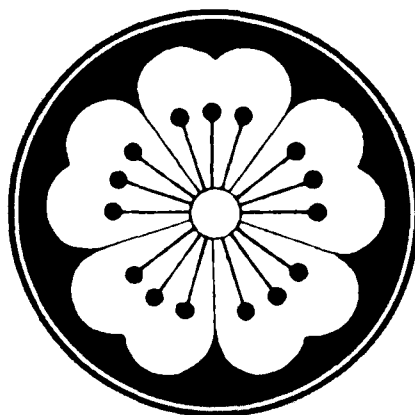
ter, from scandal sheets to the six great national dailies, each with many millions of readers, must match or exceed that of any society on earth. The political opposition is not only able to compete electorally. Particularly when the LDP majority is slim, Diet procedures give it substantial influence on policy. And even when the LDP has firm control of the key Diet committees, interparty negotiations on legislation have been the rule rather than the exception.

Other features of contemporary Japan — a relatively egalitarian distribution of income, heavy dependence on progressive taxes, free public education and near universal literacy, a national health system and one of the world's lowest death rates, enviably low crime rates — may or may not constitute democratic credentials. In any case, it is a fact that the Japanese people enjoy levels of material well-being and degrees of personal freedom that obtain in only a small number of nations.

A fair counterpoint is that the political system has produced policies that discriminate to an unusual extent against the Japanese citizen as consumer. Agricultural policy, referred to elsewhere in this article, is an egregious example. It makes a cost-of-living item like food more expensive in Japan than in any other industrial nation. Further, the high cost of housing is caused in part by preferential tax treatment given to

farmland. The ruling party has shown little or no disposition to change policies that so evidently disadvantage the majority.

It is not enough, probably, to observe that in this respect Japan's government is only somewhat worse than its democratic associates in Europe and North America. More to the point, though, farm



policy has not been controversial in Japan; the opposition parties are at least as committed as the LDP to protecting the farmers. (In the 1989 upper house election, unhappiness about agricultural trade concessions to the United States is thought to have given the Socialists a number of normally safe LDP seats.)

The antecedents of current farm policy are to be found in one of General MacArthur's most durable pieces of social engineering: a land reform that went well beyond what the Japanese politicians of the time would have supported.

After independence had been recovered, Japanese governments hardened the inherited structure of small farm agriculture with generous subsidies and legislated limits on land-holding. A consequence is a high-cost industry that burdens Japan's taxpayers and consumers.

But rural household incomes, from farming and off-farm employment, have outrun urban incomes. The resultant slowing of migration from the countryside cannot have been other than a positive force for the social stability that has marked postwar Japan. How should these considerations weigh against the policy's costs?

Political choices in Japan clearly do not always conform to those an informed citizenry might be expected to make. Critics say that social restraints peculiar to Japan limit the actual exercise of the civil liberties that the constitution guarantees. Japan unquestionably does differ from other societies in distinguishable respects. But to assert that the popular will does not operate, that Japan more nearly resembles an authoritarian state than it does the North American and West European democracies, flies in the face of reality.

The legacy of the American occupation, 1945–51, is not a disastrously failed experiment. It is rather the peaceful, prosperous, and, yes, democratic nation that we envisioned and helped greatly to create.

A Fitting Trade Partner?

Some of Japan's critics see in its formidable export performance and its outsized trade surplus a danger to the relatively open trading system that has helped to foster and sustain the remarkable gains made in world economic growth since World War II. They point to the import restrictions already imposed on Japanese goods in North America and Western Europe as indicative of a trend that is bound to take on momentum. The end result, presumably, would be to undo completely the international consensus on liberal trade that is represented by the General Agreement on Tariffs and Trade (GATT). In its extreme

form, the argument goes that Japan simply does not fit and that the survival of the trading system would be best ensured by its exclusion.

These views have made little evident impression on the political leaders of Japan's trading partners. Far from seeking to isolate Japan, they have the MITI minister as a charter member of the "Quad," the inner group of the GATT composed of American, European Community, Canadian, and Japanese trade officials. In 1986, when Japan's export surplus was nearing its highest point, the GATT membership agreed at Punta del Este to launch the Uruguay Round, with perhaps the most ambitious agenda of any of the multilateral tariff and trade policy negotiations. The objectives in-

clude tightening the GATT rules that have been ignored or evaded by the protective measures taken against Japanese exports. The final returns will not be in until 1990 or later, but the Uruguay Round bargainers thus far have registered anything but despair for the GATT and its future.

One reason may be that the macroeconomic effects of Japan's outsized trade surpluses have been less disruptive than might have been feared. The surplus reached a peak in 1987 at \$96 billion. Three quarters of it was with the United States and the European Community. These enormous economies, with a combined GNP of well over \$9 trillion, seem to have adjusted quite smoothly to the unprecedentedly large trade deficits. In the United States, where the cumulative trade deficit from 1981 through 1988 was \$750 billion (40 percent of it in trade with Japan), the march to virtual full employment went largely unchecked. Europe's troubling employment problems began in the early 1970s, long before the surge in Japan's surpluses, and clearly are caused far more by rigidities in the individual national economies than by imports from Japan. West Germany, which has had trade surpluses that in some years were relatively larger than Japan's, has had unemployment levels comparable to those of its fellow EC members.

Of course Japan's export successes have imposed painful adjustment costs on American firms and their workers in certain industries, among them semiconductors, steel, autos, machine tools, and consumer electronics. Against these costs are arrayed gains to consumers, not only from lower prices but also from advances in quality or performance of the product involved, domestic and Japanese. The case for engaging in trade is that its benefits are widely shared and continuing, whereas the costs are local and temporary.

There remain the arguments that Japan is a predatory trader and that national security is about to be imperiled by U.S. dependence on Japanese high-tech goods.

Overblown Fears of Predation. . .

Predation can be defined as a policy aimed systematically at eliminating competitors in order to create the conditions for monopoly pricing. That is the classic case for resisting export dumping. As a defense against this putative threat, the GATT allows, and most trading nations including the United States have, antidumping statutes. Japanese goods offered in the United States at below the home market price or below average cost are liable to penalty duties. The economics of that law are open to debate, but its availability is not in question. Nor is its use. At the end of 1987, 158 antidumping findings and orders were outstanding, covering products from 23 countries, Japan most prominent among them, followed by Canada.

Dumping is typically a marketing decision by a

private firm or firms. "Unfair" pricing, with its implications of predatory intent, can be facilitated by official subsidies to producers. Here again the United States has a legal defense. Its countervailing duty law, which is sanctioned by the GATT, provides for penalty duties when foreign government subsidies are found to cause or threaten "material injury" to a domestic industry or to materially retard its establishment. Seventy-four countervailing duty orders were in effect at the end of 1987 on goods from 31 countries, none including Japan.

. . . And High-Tech Dependence

The existence of antidumping and countervailing duty laws makes a successful predation policy unlikely, if indeed such a policy ever has been considered to be practicable in the American market. Japan, however, has achieved a dominant position in the U.S. market for three major products: video cassette recorders, facsimile machines, and memory chips. Experience with VCRs and Fax hardly bears out fears about exploitation of American consumers. The Japanese makers have been competing vigorously with one another here, the conclusive manifestation being the steady downward course of prices. Moreover, they have moved some of their production to the United States and have established marketing facilities here, where they unquestionably come under the jurisdiction of the antitrust unit of the Department of Justice.

Memory chips are a different story. U.S. market conditions in 1987 and 1988 give convincing evidence of cartel pricing by the Japanese chip industry, to the considerable unhappiness of U.S. users. No sleuthing was necessary to determine the cause. The 1986 Semiconductor Trade Arrangement (STA) negotiated between the two governments provided that the Japanese authorities would ensure that chip prices would be raised to levels determined by the United States to reflect full, nondumping costs. A leading writer on the economic threat from Japan has described the result: "This [the STA] amounted to getting the Japanese government to force its companies to make a profit and even to impose controls to avoid excess production — in short a government-led cartel."

Memory chips are vital to computers, which in turn have manifold military applications. Japanese advances in this category of semiconductors and in the electronics industry generally have been the grounds for the perceived menace to American national security. The Defense Department's Defense Science Board in 1987 found it "an unacceptable situation" that "U.S. defense will soon depend on foreign sources for state-of-the-art technology in semiconductors." Why such dependence should be unacceptable is arguable. The United States depends on foreign sources for other things important to defense, oil for example. The probability that Japan would withhold

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Nevertheless, the case has been essentially decided. Government subsidies and freedom from antitrust strictures are now to assist American industry to challenge and outdo its Japanese rivals. If the premise is granted that there is a high-tech problem immediately or predictably related to the nation's security, then a response is warranted. One hopes that the response that has been chosen will succeed. In any event, the most productive country in the world is hardly a helpless giant.

Perspective on Success

Nor should Americans be mesmerized by Japan's economic successes. In the 1960s when Japan's GNP was growing at 10–11 percent annually, many expected that growth to continue more or less indefinitely. In the 1970s the growth rate fell to an average annual 4.5 percent, and it has slowed further to a little more than 4 percent in the 1980s. Nothing about the slowdown is the least bit mysterious. Japan in the 1950s and 1960s was able to employ a growing labor force, including its otherwise jobless and underemployed workers. Its enterprising business class was investing the nation's high savings in the facilities needed to raise the productivity of these workers. As the pool of unemployed declined and population growth tailed off and

as the managerial and technical catch-up with Western Europe and the United States came nearer, growth had to slow.

Catch-up is some distance from being complete, moreover. Japanese workers today produce on average about 70 percent as many real goods and services as do American workers. Canadians are at 95 percent of the U.S. level, while the West Europeans fall between the Japanese and the Canadians. Japan and West Germany — and many others — will probably move closer to the United States and Canada over time. But as they achieve parity or superiority by this measure, Americans will not thereby be poorer—any more than they are less well off because Canadians are almost as productive as they are.

If comfort is needed, Japan has an ongoing, basic, and serious economic (and social) problem: Its population is aging much faster than the population of other major industrialized countries. Demographic projections for the year 2000 put Japan's over-65 population at 16.2 percent (West Germany's is projected at 15.0 percent; the United States' at 12.0 percent). In 1950 the over-65 cohort was 4.9 percent of Japan's population; it is expected to be almost a quarter in 2020. The implications of this for the economic fundamentals — the labor force and the savings rate — have to be negative. Japan's has proven to be a remarkably resilient society, and it can be expected to rise to this new challenge. But a nation with a sharply rising ratio of nonworkers to workers is not likely to have the economic dynamism it had in earlier times.

In the end, however, developments in Japan cannot provide solutions for America's own problems. The United States has had an extended economic expansion, supported in important measure by Japanese and other lenders and investors. The U.S. trade deficit and foreign debt are the counterparts of these investments. Even as rich and reliable a borrower as the United States cannot continue acquiring debt at recent rates indefinitely. Market forces along with federal budget decisions have begun to be registered in a declining trade deficit. This decline needs to be continued for our peace of mind and because we probably have been preempting too much of the world's savings. Japan's cooperation will aid the adjustment process. But the critical choices to be made will be ours.

Meanwhile, separately, we can pursue the micro-economic issues we have with Japan. From the U.S. perspective, these primarily involve Japanese protectionism, in which we have a legitimate interest because we can expect to have a more efficient economy if remaining restrictions on access to Japan's market can be reduced or removed. Since Japan's economy will also be made more efficient, there can be no assurance about the effect on our trade imbalance. But the shared gains will be real — as real and desirable as would be those realizable from a successful attack on the protectionism we have at home.

Japan's Trade Lead: Blame Profit-Hungry American Firms

Shin'ichi Yamamoto, a visiting scholar at Brookings from Nippon Life Insurance, conducted this study on the trade gap while he was at the Japan Economic Research Center. He wishes to thank Barry P. Bosworth, Robert Z. Lawrence, Anne P. Carter, Masahiko Shimizu, and Yutaka Kosai for very helpful advice.

The United States has had a substantial deficit in its trade with Japan since 1973. Yet only in recent years has that trade imbalance attracted a great deal of attention, not only from economists, but also from politicians, journalists, and the general public. Why now is the trade imbalance receiving so much attention, and, more important, what are the causes behind it?

The answer to the first question is comparatively simple. Before 1980 the trade deficit with Japan was less noticeable because it was offset in the case of the United States by surpluses with other trading partners and in the case of Japan by a large trade deficit with the oil-producing countries. In the aggregate, neither country had a substantial trade imbalance one way or the other.

The magnitude of the U.S.-Japan trade imbalance, however, grew dramatically, beginning in 1981 when the value of the dollar soared in international exchange markets. Although the dollar fell from 258 yen in 1985 to 136 yen in late 1987, the bilateral imbalance continued. And by this time, it was very noticeable because it was accompanied by a large aggregate trade deficit in the United States and a large overall trade surplus in Japan.

The persistence of the bilateral trade imbalance after 1985 puzzled those who thought it would narrow as the dollar declined in value against

the yen. That the United States still has a substantial trade deficit with Japan implies that something other than exchange rates is responsible.

To provide some insight on the relative competitiveness in the United States and Japan, I have examined changes in the patterns of trade at the level of individual industries. In particular, I have computed net trade, or export, ratios for individual industries in the two countries to evaluate trade performance. The net export ratio is the surplus of exports over imports expressed as a percentage of domestic sales. Thus, if the United States exports more aircraft than it imports, the net export ratio is positive. It is negative for an industry such as autos where the United States is a large net importer.

These ratios are compared in each of three distinct periods: 1973 to 1981, the period after the first oil shock when the bilateral trade balance grew in magnitude but both countries' trade was close to balance in the aggregate; 1981 to 1985, the period during which the U.S. exchange rate rose dramatically — an average of about 60 percent — on world markets; and 1985 to 1987, the period in which the trade-weighted average exchange rate fell roughly back to the level that ex-

isted in 1980. (Relative to the yen, however, the swing in the value of the dollar was not as great. Measured against the yen, the dollar declined by 20 percent between 1973 and 1981, rose a modest 8 percent between 1981 and 1985, and then fell 40 percent between 1985 and 1987.)

Machinery products provide the most dramatic example of change in relative trade performance of the United States and Japan. As shown in table 1, the United States had large net trade surpluses in machinery products in the 1970s. While the motor vehicle and metalworking machinery industries experienced some decline in their net export ratios, those declines were offset by strong gains in general industry machinery, computing machines, and other transportation equipment, primarily aircraft. Japan also tended to have substantial export surpluses in these industries.

From 1981 to 1985, however, the U.S. trade balance deteriorated in every category of machinery products, with particularly large declines in general industry equipment, metalworking machinery, computers, and motor vehicles — and it is in these industries that Japan experienced the largest in-

creases in its net export ratios. U.S. export ratios declined by more modest amounts in other manufacturing sectors, and these declines were not matched by significant increases in the Japanese export ratios. Thus, the shift in relative trade positions of the two countries is concentrated in the machinery industries.

The 1985–87 period saw a complete reversal of the previous increase in the exchange value of the dollar. Yet the U.S. trade balance in machinery products did not improve; in some industries it actually grew worse. And although the yen rose sharply in this period, the falloff in the Japanese trade performance was far less than the United States experienced under similar

circumstances in 1981–85. Why were the Japanese and American responses to a rise in the exchange rate so different? And why didn't American exports perform better relative to those of Japan after 1985, given the price advantage implied by the cheaper dollar?

Prices, Productivity, and Profits

I believe that the differences can be explained by prices, but in assessing price competitiveness, too much emphasis has been placed on exchange rates and not enough attention has been given to underlying differences in labor productivity, wages, and capital costs.

A comparison of rates of price

Table 1. Comparison of Net Export Ratios

Industry	1973	1981	1985	1987
Optical, photographic equipment				
U.S.	3.1%	2.6%	-1.8%	-2.4%
Japan	7.0	16.2	15.3	26.2
General industrial machinery				
U.S.	17.8	33.2	13.4	5.6
Japan	8.3	14.7	16.0	30.0
Metalworking machinery				
U.S.	8.1	-3.7	-23.5	-30.8
Japan	5.4	21.6	23.2	29.1
Computing machinery				
U.S.	26.5	30.0	12.8	7.8
Japan	2.2	20.2	38.5	35.5
Electric industrial machinery				
U.S.	2.8	5.5	-0.8	-1.5
Japan	8.8	24.2	24.1	30.2
Other electric machinery				
U.S.	-3.0	-4.6	-11.6	-10.6
Japan	16.8	28.4	25.5	27.0
Motor vehicles				
U.S.	-2.8	-7.1	-11.4	-17.6
Japan	16.3	36.4	45.2	67.8
Other transportation equipment				
U.S.	20.1	25.6	16.1	15.5
Japan	75.5	62.1	41.2	34.2

Sources: U.S. Department of Commerce, *U.S. Industrial Outlook*; Japan Ministry of International Trade and Industry, *Input Output Table, Industrial Statistics Monthly*; Ministry of Finance, *The Summary Report, Trade of Japan*.

"Why were the Japanese and American responses to a rise in the exchange rate so different? And why didn't American exports perform better relative to those of Japan after 1985, given the price advantage implied by the cheaper dollar? I believe that the differences can be explained by prices, but . . . too much emphasis has been placed on exchange rates and not enough attention has been given to underlying differences in labor productivity, wages, and capital costs."

change for machinery products in the United States and Japan shows that domestic rates of increase in the United States have consistently exceeded those in Japan by wide margins (see table 2). The decline of the dollar exchange rate in the 1973-81 period offset much of this difference, and therefore the price changes, denominated in dollars, were relatively equal in the two countries. However, in the 1981-85 period, the rise in the dollar exchange rate exacerbated the underlying price differences, and the price of Japanese machine prod-

ucts, denominated in dollars, fell dramatically. Using 1973 as the base year, the dollar price of the Japanese products in 1985 was 22 to 43 percent below comparable American prices.

With the fall of the dollar in the 1985-87 period, the relative dollar-price of Japanese products rose substantially, but a portion of the shift in the rates of exchange was offset by a continued lower rate of price inflation in Japan than in the United States. Japanese manufacturers no longer enjoyed a price advantage, but they suffered a far

Table 2. Comparison of Price Indexes

Industry	1973	1981	1985	1987
Optical, photographic equipment				
U.S. (\$)	100	193	217	225
Japan (\$)	100	188	147	271
(¥)	100	146	143	139
General industrial machinery				
U.S. (\$)	100	227	254	259
Japan (\$)	100	199	160	287
(¥)	100	154	155	147
Metalworking machinery				
U.S. (\$)	100	262	301	302
Japan (\$)	100	218	171	308
(¥)	100	169	166	158
Electric industrial machinery				
U.S. (\$)	100	219	246	257
Japan (\$)	100	215	167	312
(¥)	100	167	162	160
Other electric machinery				
U.S. (\$)	100	107	111	114
Japan (\$)	100	130	84	137
(¥)	100	101	82	70
Motor vehicles				
U.S. (\$)	100	208	233	236
Japan (\$)	100	226	182	310
(¥)	100	175	177	159

Note: Data for computing equipment and other transportation equipment were not available.

Sources: U.S. Department of Commerce, *U.S. Industrial Outlook*; Japan Ministry of International Trade and Industry, *Input Output Table*; Bank of Japan, *Price Indexes Monthly*.

smaller price disadvantage than American producers faced when the dollar exchange rate was at its height.

The differences between the two countries in rates of price increase can be traced in turn to differences in the rate of increase in unit labor costs and unit capital returns (see table 3). For the entire 1973-87 period, increases in unit labor costs in the United States machinery sector exceeded those in the comparable Japanese sector by about 1 percentage point annually. The differences in unit capital return — profits, in-

terest costs, and depreciation — were even larger.

The increase in unit labor costs was then broken down into productivity gains and wage rate increases for the three machinery industries where data were available (see table 4). The difference in the annual growth of nominal wages in the United States and Japan turns out to be less than one percentage point annually, eliminating pay scales as the principle cause of the higher increase in U.S. unit labor costs. Labor productivity, however, does appear to have played a

Table 3. Comparison of Unit Labor Costs and Return on Capital
(Annual rate of increase, 1973-87)

Industry	% Increase in Unit Labor Costs			% Increase in Unit Return on Capital		
	U.S.	Japan	Difference	U.S.	Japan	Difference
Optical, photographic equipment	4.4	2.6	1.8	2.5	-1.7	4.2
General industrial machinery	6.4	6.0	0.4	4.4	0	4.4
Metalworking machinery	9.1	6.2	2.9	5.5	-0.9	6.4
Electric industrial machinery	6.1	5.7	0.4	6.0	-3.1	9.1
Other electric machinery	-0.6	-1.0	0.4	0.1	-6.2	6.3
Motor vehicles	5.7	4.8	0.9	7.3	0.2	7.1

Sources: U.S. Department of Commerce, *Input Output Accounts of U.S. Economy* (1977, 1981), *Quarterly Financial Report*; Japan Ministry of International Trade and Industry, *Input Output Table*; Bank of Japan, *Price Indexes Monthly*; Ministry of Finance, *Financial Statements of Corporations by Industry*.

Table 4. Comparison of Productivity and Wages
(Annual rates of increase, 1973-87)

Industry	% Increase in Labor Productivity			% Increase in Nominal Wages		
	U.S.	Japan	Difference	U.S.	Japan	Difference
General industrial machinery	0.3	4.4	-4.1	6.8	6.1	0.7
Electric machinery	7.6	9.3	-1.7	7.0	7.3	-0.3
Motor vehicles	1.6	4.6	-3.0	7.4	6.8	0.6

Sources: U.S. Department of Commerce, *Quarterly Financial Report*; Japan Productivity Association, *Monthly Productivity Data*; Japan Ministry of Labor, *Chingin sensasu* (Wage Census)

significant role. During the 1973–87 period, the average annual increase in productivity was three percentage points higher in Japan than it was in the United States.

An even larger difference between the two countries occurred in the increase in the unit return to capital. For the 1973–87 period, the annual growth in this measure was 6.3 percentage points higher in the American machinery industries than in the Japanese industry. This difference substantially reduced the price competitiveness of U.S. machine manufacturers, particularly during the 1985–87 period, when the difference reached 15.5 points.

Increased profits accounted for most of these differences. In the U.S. machinery sector, unit operating profits (gross profits less administrative and sales expenses) rose 40 percent between 1973 and 1987, even as net export ratios were falling sharply. In Japan, unit operating profits dropped 43 percent during the same period. In other words, U.S. machine manufacturers raised their operating profits rather than controlling prices as a means of expanding market share. In contrast, Japanese firms cut their operating profits, emphasizing increased sales at the cost of some loss in profits per unit.

(These differences in the return to capital can be further highlighted by focusing on the relative share of capital in total value added. In the U.S. machinery industry, capital's share of income declined from 0.32 in 1973 to 0.30 in 1987. In Japan, capital's share of income fell from 0.42 in 1973 to 0.25 in 1987.)

I believe that the difference in the behavior of the return to capital in the two countries reflects, in part, the pressures placed on U.S. managers to achieve a high return on stockholders' equity. Shareholder rights are very powerful in the United States, and unlike the situation in Japan, managers are expected to provide high earnings and dividends per share.

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This contention is supported by the fact that 63 percent of the U.S. companies reporting lower profits in 1987 increased their dividends. Dividend payout ratios are consistently higher in the United States than in Japan. Although payout ratios in Japan increased after 1985, the increase reflects the fact that dividends were not immediately reduced to keep pace with the sharp decline in profits triggered by the yen's appreciation.

American firms have tended to withdraw from manufacturing products that they judge to have low operating profits, and they have engaged in streamlining operations that lead to mergers, plant closings, and layoffs. These policies may raise profits but at the cost of reduced output and employment. For the most part, the American machinery sector has sought to avoid the manufacture of products where it faces both intense competition and downward pressures on profits.

In summary, the sharp drop in the net export ratio of the U.S. machinery sector can be traced to

pressures to raise profits rather than expand sales, and to a slow rate of growth in labor productivity. In addition, machinery industries have consistently devoted less effort to capital investment (which in turn could improve labor productivity). From 1981 to 1987, the Japanese machinery sector's annual increase in its capital stock was 8.7 percent, more than double the 4.1 percent increase registered by the U.S. sector.

Toward Restoring a Balance

In addition to reducing the budget deficit — widely acknowledged as a precondition for a healthy economy — there are four steps I believe the United States must take if its manufacturing sector is to improve its relative competitiveness. First, the excessive emphasis on high dividend rates and on high operating profits at the expense of expanded sales should be reexamined. Capital investment to secure long-term profits should be aggressively promoted.

Second, corporate taxes should be restructured to control dividend rates and encourage capital investment, while individual income taxes should be structured to lure long-term investors away from dividends and into capital gains.

Third, the exchange rate of the dollar should be allowed to continue to fall to compensate for the gap in the growth rates of wholesale prices. A rise in the dollar's value would slow the expansion of foreign production facilities in the United States, an expansion that is helping to strengthen the U.S. economy. Continuous dollar depreciation will stall the price of U.S. machinery products at current levels. Admittedly, excessive depreciation of the dollar would trigger inflation and so must be avoided.

Finally, U.S. interest rates should be lowered to reduce the cost of obtaining funds for capital expansion. Preferential taxes for individual savings would be one way to reduce interest rates.

A Surprising Culprit Behind the Rush to Leverage

Margaret Mendenhall Blair

Recent gyrations of the stock market and financial troubles at large and highly visible corporations such as Campeau Corp., owner of Bloomingdale's and other tony department store chains, underscore the troubling public policy issues raised by the corporate restructuring wave of the 1980s. Some observers fear that takeovers, leveraged buyouts, stock buybacks, and other debt-financed restructurings weaken the economy by making the corporate sector less stable and more vulnerable to default and bankruptcy in difficult times. Others argue that they are a problem because they encourage short-term thinking and drive out long-term management strategies. Still others contend that they are simply devices to exploit the fact that interest payments are tax-deductible, while dividend payments are not, so that the profits to shareholders and deal makers come out of the pockets of taxpayers.

On the other side, the deal makers themselves, as well as a sizable group of scholars, argue that these transactions are shaking up fat and inefficient corporations, realigning incentives, and making companies more competitive by forcing managers to extract the

maximum possible operating profits from existing assets. Bombarded with these conflicting arguments, neither Congress nor financial market regulators have taken any significant steps to limit high-leverage transactions. A spate of bankruptcies or further instability in the stock market may prompt new outcries for action, but before policymakers jump in with new regulations or tax rules, more needs to be understood about what is driving the great corporate restructuring movement of the 1980s.

In some sense, each takeover or other restructuring transaction is unique, so theories about what is causing all the leveraging activity are as numerous as the firms involved. However, four broad theories have gained particular prominence:

□ *Tax incentives.* The tax code does favor the use of debt over equity in corporate capital structures by allowing firms to pay interest with pretax dollars while dividends must be paid with after-tax dollars. Firms are simply taking advantage of this discrepancy when they choose a highly leveraged capital structure rather than one that includes more equity.

□ *Financial innovations.* Creative financiers have developed a vast array of new financial instruments that make hedging and other portfolio management strategies easier to execute. They have also developed active markets in which these new instruments can be bought and sold. These innovations have increased the financial market's tolerance for debt and have made debt financing more socially acceptable.

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"First of all, the tax advantage of debt over equity at the corporate level has been a feature of the tax code for decades and, if anything, was weakened by Reagan-era tax reforms. . . . Second, the big shift to debt financing began around 1983, three years before the most important tax changes were enacted."

□ *The "control" function of debt.* Michael Jensen of Harvard Business School has argued that in a highly leveraged firm, debt acts as a "stick," imposing a threat of bankruptcy on the firm if it fails to keep cash flow at least high enough to make payments on the debt. Meanwhile, if the remaining equity is concentrated in the hands of managers, it acts as a "carrot," rewarding them generously for extracting the maximum possible performance out of the company's assets. In this way, debt encourages efficiency, since managers of firms that are very highly leveraged cannot afford the luxury of even small inefficiencies.

□ *"Free cash flow."* This argument is related to the control function of debt but applies specifically to firms in slow-growth or declining markets that generate more cash flow (operating profits, plus depreciation) from existing assets than they can use for profitable new investments. The excess is what Jensen has called "free cash flow." Increasing their debt level forces these companies to pay out a larger share of their cash flow in the form of interest payments rather than retaining and reinvesting it. For these firms, shifting to a highly leveraged capital structure increases the total value of the firm by preventing managers from making marginal or unprofitable investments.

While there is undoubtedly some truth in each of these theories, none by itself provides a very satisfying explanation for why leverage mania has struck in the 1980s. First of all, the tax advantage of debt over equity at the corporate level has been a feature of the tax code for decades and, if anything, was weakened by Reagan-era tax reforms that reduced the maximum corporate tax rate. Second, the big shift to debt financing began around 1983, three years before the most important tax changes were enacted. Finally, while it is true that the 1986 tax reform act eliminated the preferential treatment of income from capital gains, thereby reducing one advantage that equity had over debt for many investors, it also increased the transaction cost of buyouts to shareholders, since shareholders who choose to sell out must pay taxes at a higher rate on their gains. That should have worked to reduce the number of takeovers by making them more costly.

The theories on the control function of debt and free cash flow are both about the incentives of managers and the way organizations tend to behave. As such, they should have been equally true in past decades. Thus they don't completely explain why restructuring is happening in the 1980s.

Even the financial innovation story doesn't really explain the timing of the rush to leverage. Why did these innovations arise in this decade? With the possible exception of certain arbitrage techniques that require the use of very high speed computers, most financial market innovations have not involved previously unknown scientific or technological knowledge and could have been used earlier if they were profitable or attractive for other reasons. In particular, high-yield "junk" bonds have existed for decades. In the 1980s, however, financiers such as Michael Milken have been able to promote their use in a far wider range of applications.

The Missing Link

My own work suggests a theory that links together several of the above arguments and explains why the managerial incentive and tax advantages of debt suddenly became important in the 1980s. At the beginning of this decade, financial markets experienced a significant increase in real (inflation-adjusted) interest rates, to levels three to four times greater than any seen since World War II. This surge happened just as the rate of return on physical assets, particularly in the manufacturing sector, was collapsing. As figure 1 suggests, the total (pretax) return to capital in manufacturing had been trending downward throughout the postwar period, but it fell below the inflation-adjusted interest rate on Moody's AAA bonds in 1980 and has stayed below or just barely above that rate throughout the decade.

High real interest rates mean that far fewer invest-

ment projects are worth undertaking. As investment prospects in general dry up, companies that in years past had more than enough attractive projects to absorb all of their cash flow will now find themselves generating more cash flow than they can profitably reinvest. In other words, old investments, made in the days when real interest rates were much lower, may be quite profitable, but at today's high rates, new ones are much less likely to be so. Unless the climate for new investment is very strong for other reasons, high real interest rates will thus lead to large amounts of free cash flow in the corporate sector. That explains why the free-cash-flow argument may have suddenly become important in the 1980s.

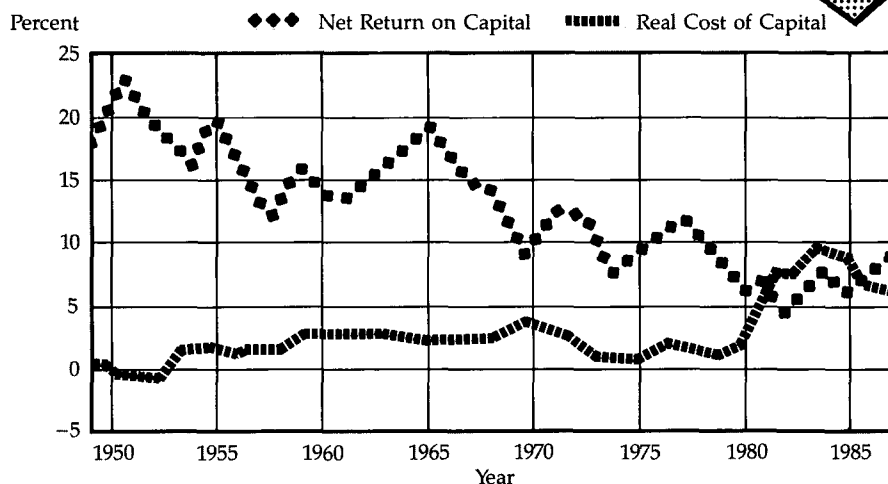
Just as high real interest rates slash away at investment incentives within the company, they also raise the "opportunity cost" of owning stock for shareholders. Because investors can earn a very high real return on safe securities such as government bonds or top-rated corporate bonds, they are less inclined to put their money into risky corporate equities, or keep it there, unless those securities provide an even higher return. High real interest rates generate shareholder dissatisfaction, which adds to the pressure on corporate managers to extract a higher return from their existing assets, and, equally important, to increase the

payout to shareholders. The elimination of the tax advantage of capital gains also removed a major incentive shareholders had for encouraging firms to retain and reinvest profits.

Thus several events converged to alter radically the traditional relationship between companies and their shareholders. After decades in which shareholders preferred investing in corporations whose managers reinvested profits and expanded their firms, shareholders now seem to prefer that firms disgorge cash rather than use it for internal growth. Companies that have resisted these pressures have often become the targets of hostile takeovers whose object is to break up the firm, sell off assets, and distribute the proceeds to shareholders.

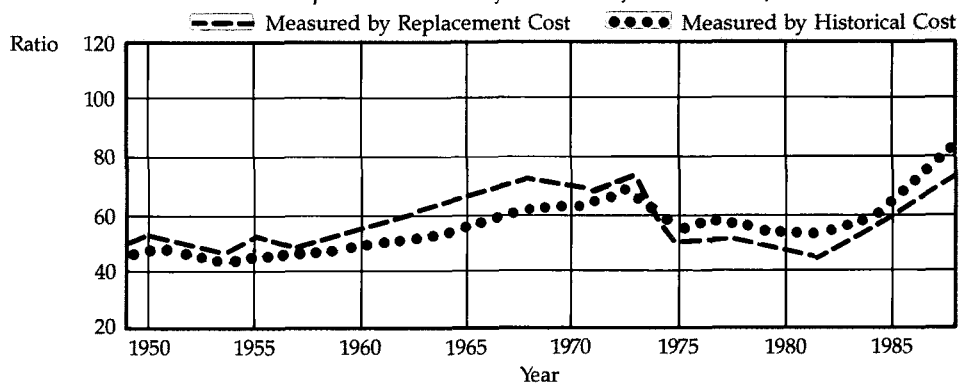
Once this high real interest rate dynamic is understood, it becomes clear why the discrepancy in the tax treatment of debt and equity seems to be of added significance. Unlike borrowed funds, or even new equity, retained earnings are available to the firm with no transaction costs. As long as firms were investing in profitable projects, retained cash flow may have been the most cost-effective source of funds. While taxes on profits raise the cost of retained cash flow relative to borrowed funds, that extra cost was offset in the past by the lower tax rate shareholders paid on returns

Figure 1.
Capital: Rising Costs,
Falling Returns
Net Return on and Real Cost of Capital
for 20 Manufacturing Industries



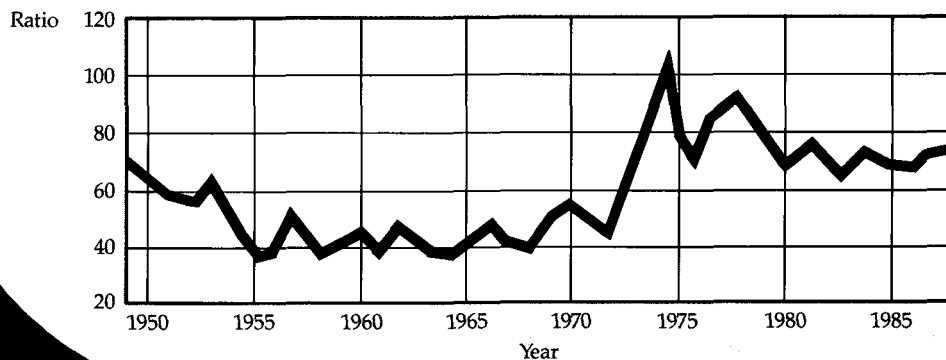
Source: The net return on capital is constructed from Department of Commerce data on capital stocks, inventories, and factor payments, and from estimates of land values derived from Compustat data. The real cost of capital equals the nominal rate on Moody's AAA-rated bonds minus the three-year moving average of percentage changes in the index of personal consumption expenditures.

Figure 2. Debt-Equity Ratios by Book Value
Historical and Replacement Costs for the Nonfinancial Corporate Sector



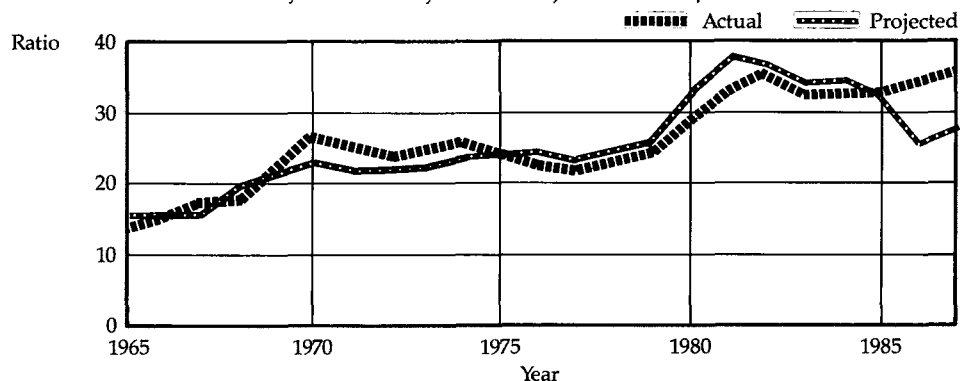
Source: Federal Reserve Board, *Balance Sheets for the U.S. Economy, 1949-88*.

Figure 3. Debt-Equity Ratios by Market Value
Ratios for the Nonfinancial Corporate Sector



Source: Federal Reserve Board, *Balance Sheets for the U.S. Economy, 1949-88*.

Figure 4. Interest-to-Cash-Flow Ratios
Actual and Projected Paths for the Nonfinancial Corporate Sector



Note: Projected path for 1981-87 shows what the ratios would have been based on historical behavior.

Source: *National Income and Product Accounts*.

that came to them as capital gains rather than as dividends. Meanwhile, from the managers' point of view, retained cash flow is probably a more attractive source of funds because it provides a much greater degree of investment flexibility than external funds, an advantage especially important to companies in rapidly growing markets where the ability to respond quickly to investment opportunities is vital.

For firms that have run out of investment opportunities, however, the question of how to get cash out of the firm and back into the hands of investors in the least tax-costly way takes on new importance. Clearly, if the goal is to get cash out, it makes more sense to pay it out with pretax dollars in the form of interest payments than to pay it out as dividends with after-tax dollars.

While economists have traditionally argued that high interest rates should lead corporations to rely more heavily on equity than debt, that argument may be appropriate only for firms that are going into the capital markets regularly to raise new funds for increased investment. For firms that are, in effect, disinvesting, the tax bias in favor of debt becomes critical in the choice of capital structure. Moreover, debt constrains the firm, forcing managers to make the tough choices involved when cutbacks are called for, and giving them the "stick" (the threat of bankruptcy) they may need to institute those unpopular policies within the organization. Paradoxically, then, high interest rates may lead firms to opt for more debt in their capital structure, especially if those high interest rates are not accompanied by rapid growth, technological change, or other developments that would make the marginal return on new investment for the firms even higher.

High real interest rates combined with a weak climate for new investment for many firms might also explain why financial entrepreneurs were able to find opportunities in the 1980s to profit from reorganizing firms and leveraging them up. While the rapid pace of financial market innovations of the 1980s undoubtedly contributed to the leveraging trend by making certain new complex transactions possible, the reverse relationship is equally likely: the new logic of leverage opened up profit opportunities that have accelerated the pace of financial innovation.

The Shift to Debt: Following Trend. . .

How significant has the rush into debt been in the 1980s? The answer depends in part on how leverage is measured. If the question is the degree to which a firm is at risk of insolvency, then the ratio of the firm's debt to its equity is the appropriate measure. Figure 2 plots the aggregate debt-to-equity ratio for the entire nonfinancial corporate sector over 40 years since 1949. In this figure, the values of debt and equity are measured two ways, one based on historical cost, the

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for the firms even higher."*

other on replacement cost. Measured either way, this ratio followed a fairly steady upward trend until 1973 and then slid downward for a decade. Since 1983 the ratio has climbed sharply, hitting new peaks in 1988. While high by historic standards, it is not out of line with where it would have been by now if the pre-1973 trend had continued.

Figure 3 plots this same ratio, except that the value of equity is based on the market value of corporate stock traded, rather than on the book value of the underlying assets. By this measure, corporate leverage is somewhat higher in the 1980s than in most previous decades but has actually been trending downward since the mid-1970s, when the collapse of stock market prices caused this ratio to double. This pattern has led some observers to argue that, in the aggregate, corporate borrowing is not excessive nor does it add to the overall risk in the economy. But, because it is based on stock prices, this measure of leverage is driven more by the whims and moods of the market than by corporate decisions. Moreover, as the events of October 1987 and October 1989 demonstrated only too well, it can change dramatically very quickly.

The ratio of interest payments to cash flow tells more about the extent to which firms may be constrained in their choices about how to allocate the proceeds from their current operations (see figure 4). This measure, too, shows that leverage has been on an upward march throughout the postwar period. In the past, however, this ratio moved predictably with several key macroeconomic variables, such as nominal interest rates and the aggregate ratio of dividends paid to stock prices.

In the 1980s this relationship collapsed. If the ratio of interest to cash flow were tracking its historic path, it would have declined in the 1980s, a period of economic expansion in which nominal interest rates fell. Instead, this ratio reached a peak in 1982 when nominal interest rates hit new highs, fell from that peak for only a year, and then climbed back to its previous peak.

... Or Dramatic Flight?

While these measures confirm that the use of debt by the corporate sector has expanded in the 1980s, they do not make an overwhelming case that leverage in the aggregate is dramatically out of line with postwar trends. Why all the excitement then? For this reason: Two other measures, which focus on changes at the margin rather than changes in aggregate capital structures, suggest that the corporate sector is in the process of a dramatic flight from equity and toward debt. Historically, firms have financed new investment each year through a combination of internal funds (cash flow) and external funds raised in the capital markets. The latter consisted partly of new debt and, to a lesser extent, new equity.

Figure 5.
The Flight to Debt, I
Net New Debt and Equity
Raised by the Nonfinancial
Corporate Sector
(In billions of dollars)

Net New Debt
Net New Equity

Source: Federal Reserve
Board, Funds Flow Statement.

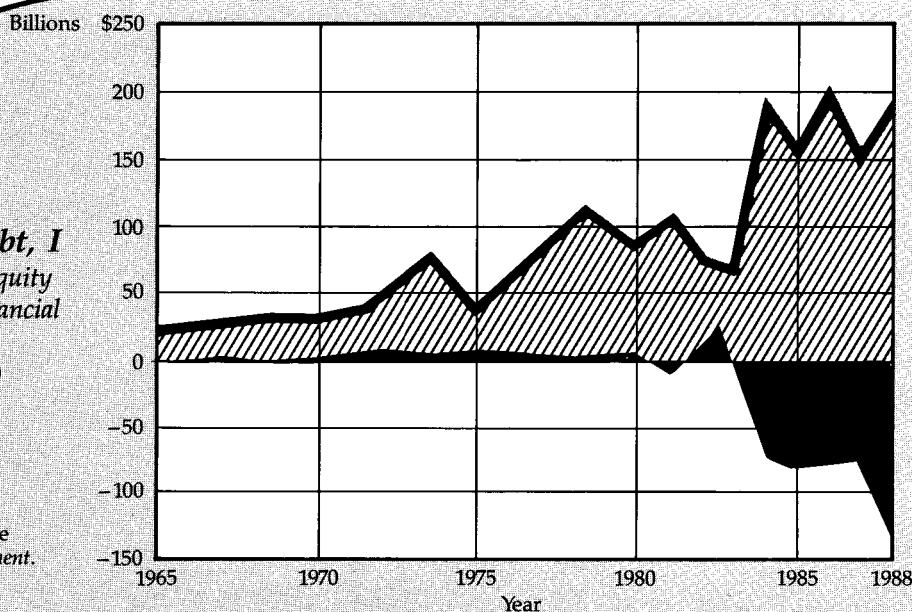


Figure 6.
The Flight to Debt, II
Mergers and Acquisitions,
LBOs for All Industries
(In billions of dollars)

Mergers and
Acquisitions
LBOs

Note: Includes all transactions
valued at \$35 million or more.

Source: Morgan Stanley, Inc.

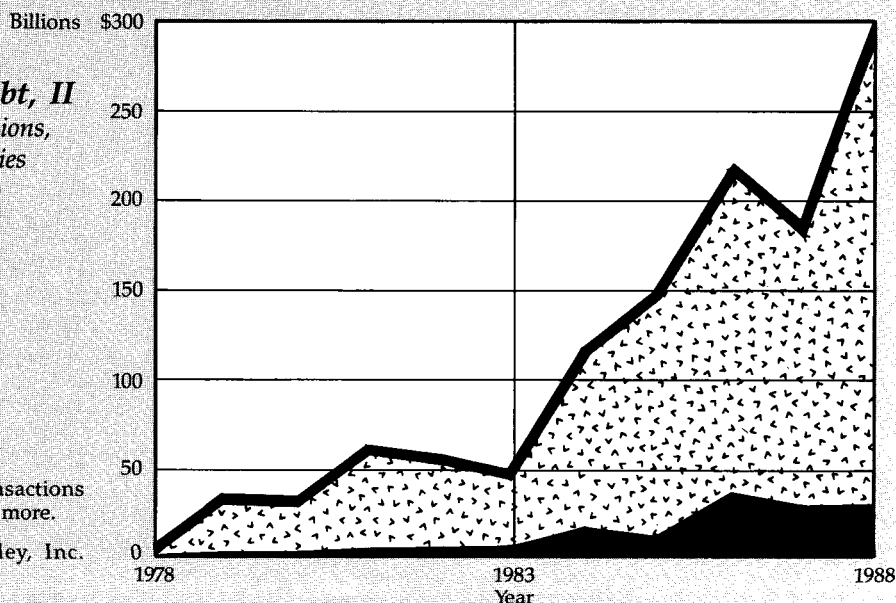


Figure 5 illustrates that corporations in the 1980s departed from their historic behavior in two important ways. They issued far more new debt than ever before, and they withdrew equity from the markets in massive quantities. These patterns are particularly surprising because traditional finance theory would have predicted the opposite: The high interest rates of the 1980s should have discouraged debt financing, while high and rising stock prices should have made equity financing more attractive.

The mechanics of the shift to debt have differed from company to company. Some have borrowed money to buy back their own stock. Some have acquired other firms, issuing new debt instruments rather than new stock of their own to finance the deal, while at the same time removing the equity of the target firms from the market. And some firms have undergone leveraged buyouts (LBOs) in which a small

investor group, often including the top executives of the corporation, borrows large amounts of money to take that corporation private by buying up all of its outstanding publicly traded stock. Figure 6 illustrates the dramatic growth in transactions of the latter two types. Before 1980 LBOs hardly ever occurred, and when they did, they involved very

small companies. In the last few years, however, LBOs have come to represent about 15 to 20 percent of all merger and takeover transactions (measured by dollar value).

Which Firms Are Affected?

These last two measures support the conventional wisdom that a large number of firms are, in fact, dramatically restructuring themselves and financing themselves much more heavily with debt than in the past. Which firms are undergoing such transformations, and why? Are they, in fact, firms that have run out of new investment opportunities, as the high-interest-rate/free-cash-flow theory suggests? The latter question is extremely difficult to answer because there is no objective way to measure investment opportunities.

One way to approach the question is to look at how leverage is being used to transform different industries. Investment opportunities are likely to be similar for firms within a given industry, though they may be quite different from industry to industry. If companies are being leveraged up because they just

don't have enough investment projects that are attractive at the current high real interest rates, companies in some industries would be affected much more than those in others.

Indeed, that seems to be the case. Using data from Morgan Stanley on LBOs by industry, for example, I computed the total value of all LBO transactions valued at \$35 million or more in each of 29 nonfinancial industries during the period 1978 to 1988 and compared that total with the 1987 dollar value of the capital stock in each industry. This "LBO rate" ranged from a high of 62 percent in the apparel industry (meaning that apparel firms bought out in highly leveraged transactions from 1978 through 1988 had a total value equivalent to 62 percent of the value of all capital assets in the apparel industry in 1987) to as low as zero in the petroleum-refining industry. (Some large firms classified as oil-producing, rather than oil-refining, companies were the object of other forms of highly leveraged restructurings, however.) The LBO rate is correlated across these 29 industries with a measure of the slowdown in the rate of growth of the capital stock in those industries, although this correlation is not strong.

Identifying the factors that are driving firms toward debt is complicated by the fact that different measures of the trend toward leverage tell somewhat different stories about which industries are seeing the largest run-up in the use of debt. For the 14 manufacturing industries for which detailed income statement and balance sheet information is available, I compared three measures — the LBO rate as computed above, the ratio of interest to cash flow over the same period, and the ratio of debt to total assets.

The three industries with the highest LBO rate were stone, clay and glass; textiles; and food processing and tobacco. The three with the largest increase in the ratio of interest to cash flow were stone, clay and glass; instruments and related products (which ranked ninth in terms of LBO rate); and fabricated metal products (which ranked sixth by LBO rate). And the three industries with the largest increase in the ratio of debt to total assets were petroleum refining (which had no LBOs); stone, clay and glass; and instruments and related products.

For the 14 industries together, the LBO rate is positively correlated with the increase in the interest-to-cash-flow ratio. Somewhat surprisingly, the ratio of debt to total assets is uncorrelated with either of the other measures. This ratio may be a less reliable way to determine the factors driving firms toward debt, however, because it is slower to reflect marginal shifts in financing patterns, and because differences across industries in measurement of the "assets" part of this ratio are more subject to arbitrary accounting rules than are measures of interest to cash flow.

Discrepancies also arise from the fact that LBOs are only one of many ways firms can be restructured and

from simple measurement problems, especially when data from different sources are combined. For example, a major LBO recorded by one source for a given year might not affect the income statement and balance sheet numbers reported by another source until the next year, or different sources may assign the same firm to different industries. With currently available data, it is not possible to completely sort out these measurement effects from the underlying factors I am trying to evaluate.

This limited sample of industries shows some evidence that increases in interest-to-cash-flow ratios over the last decade were correlated across industries with low average rates of net new investment. It is unlikely that this correlation would be found if firms were increasing their borrowing to finance large amounts of new investment. But the correlation is consistent with the proposition that debt payments are being used as a mechanism to force firms to pay out cash rather than use it to build new plant and equipment.

For these 14 industries it was possible to track interest-to-cash-flow ratios since 1974 together with two indicators of investment opportunities: the rate of growth of the capital stock and the average price-to-earnings (P/E) ratio in each industry in each year. The former gives a measure of how fast the industry is actually expanding each year. The latter is a forward-looking measure that tells something about how investors in the stock market view the prospects for

that industry. Industries expected to have slow growth in profits will generally have a low price relative to long-term earnings and, hence, low P/E ratios, while industries expected to grow rapidly will tend to have high P/E ratios.

Regression analyses on these industries indicate that after controlling for cyclical fluctuations and a time trend, interest-to-cash-flow ratios are negatively related to both indicators of investment opportunities and positively related to long-term measures of the real interest rate. These findings run counter to predictions of traditional finance, but they are consistent with the high-interest-rate/free-cash-flow theory of leverage.

Fingering the Real Culprit

These results suggest that at least one of the culprits in the great corporate restructuring movement of the 1980s may be the combination of high real interest rates and sagging returns that have plagued U.S. industries and made new investment unattractive. The discouraging climate for new investment has made it profitable for financial entrepreneurs to dismantle whole corporations, to siphon funds away from physical production, and to redeploy them in financial investments, such as government bonds, with high and safe returns. Thus corporate restructuring and the rush to leverage can be viewed as another symptom of the widespread shift in the U.S. economy of the 1980s away from savings and toward debt-financed consumption.

Policies designed to stifle, control, or otherwise regulate leverage-driven takeovers or other forms of restructuring must also address this underlying problem or they are likely to do more harm than good. The job of improving the climate for new investment falls partly in the lap of entrepreneurs and corporate executives who must constantly seek out new markets and better production techniques, stay ahead of competitors worldwide, and extract the best possible performance from the investments they do make. Support from the public sector will make that difficult job much easier. Public investments, for example, are needed in the human capital and infrastructure required to use new plant and equipment most efficiently. And the tax system should be neutral with respect to debt and equity, neither rewarding leverage-driven disinvestment strategies nor penalizing new investment.

Probably the single most important thing policymakers can do to improve investment incentives is to act to reduce the real interest rate, which will, in turn, bring down the "hurdle rate" that new investments must satisfy to be worth undertaking. And real interest rates can be reduced without sparking inflation only by bringing down government budget deficits and encouraging private savings.

"Probably the single most important thing policymakers can do to improve investment incentives is to act to reduce the real interest rate, which will, in turn, bring down the 'hurdle rate' that new investments must satisfy to be worth undertaking."

A Pragmatist's Approach to the Soviet Economy

A Conversation with Nikolai Shmelev and Ed A. Hewett

Perhaps the most crucial set of decisions facing Soviet President Mikhail Gorbachev is how to revitalize the country's sagging economy and still retain the support of the population. One proposal, quite radical from a traditional Soviet viewpoint, has been offered by Soviet economist Nikolai Shmelev, who discussed his plan in mid-September with Brookings' Ed A. Hewett.

Shmelev is the head of the Economics Department of the Institute of the USA and Canada and a member of the Congress of People's Deputies representing the Academy of Science. He is also the author, with Vladimir Popov, of a new book, *The Turning Point: Revitalizing the Soviet Economy*, published in English by Doubleday. He was in the United States for the Jackson Hole, Wyoming, meeting between Secretary of State James A. Baker and Soviet Foreign Minister Eduard Shevardnadze.

Hewett, a senior fellow in the Brookings Foreign Policy Studies program, closely follows the economic situation in the Soviet Union. He is the author of *Reforming the Soviet Economy* (Brookings 1988) and is working on a book on Soviet economic relations with the West. The following is an edited transcript of their conversation.

Hewett: Let us begin with your reading of the current economic situation in the Soviet Union and your program for recovery of the economy. It would be helpful to know how you see the situation and what you would like to see the leadership do.

Shmelev: Ed, I'm sure that you know my views about our economic situation. I'm rather optimistic

about our long-term prospects, our nation's future at the end of this century, the beginning of the next century, even though we have before us huge economic problems.

The first one is the necessity to change the basic principles of our economic mechanism, to have instead of the present administrative mechanism a market mechanism, a market stimulus, including an absolutely convertible ruble. It is a huge task, and I am sure that we will need at least 10 years to construct a new economic mechanism.

We also need to change the structure of property in our economy, by allowing more room for private and quasi-private sectors. I'm sure that in the near future, say, the end of the next decade, the co-op sector and private sector will account for at least 40 percent, maybe even 50 percent, of our economic. . .

Hewett: Forty percent of gross national product or of value of assets?

Shmelev: Maybe even the value of assets, yes, I hope so. And the state sector will be reorganized on the principle of shareholding by employees and other enterprises.

We have some really terrible structural problems that may not be apparent to the public, and I'm not talking only about the necessity of restructuring our military complex. As you know, we are spending somewhere around 60 percent of our capital investment to support primary sectors — fuels, raw materials, and so on. This investment, combined with our

military investment, leaves no more than 20 percent to invest in developing our machine tool industries, our consumer sector, and so on. Shifting the investment emphasis will take a great structural change, and we need a lot of time to implement it.

Another structural problem is how to reduce our unbelievably broad number and range of construction projects. You may know that we are trying to support more than 300,000 projects all at the same time. This burden is unbearable for us. We should cut the number of projects by two-thirds. But there will be a real danger of mass unemployment if we try to solve this problem too quickly, not step by step.

Hewett: Right now you have, what, an average of 12 people on each construction project?

Shmelev: Yes. So, I see four huge economic tasks before us: the need to make economic reforms, economic mechanisms; the necessity to reduce our military production; the necessity to reduce our raw material and fuel investments; and the necessity to reduce the number of construction projects we're working on.

Just now, though, I don't think too much about our long-run problems. I cannot think about anything but our current problems. I'm really afraid of the next one or two years. For the future, for the social stability in our country, the next one or two years will be decisive. If we survive this period, if we somehow overcome our immediate problems, everything will be okay.

From a political and economic point of view, the main task of this one or two years is somehow to make our rubles work. Right now, not only private persons, but also all our enterprises have no interest in raising or improving their production because they really don't know on what to spend their incomes. You can't buy anything. There are not just troubles but real tortures for anyone who wants to buy, say, construction materials, machine tools, shoes, I don't know, soap, sugar. Everything is in shortage.

That is why the ruble as a base of any economic stimulus, of any market economy, does not work. It's only paper. And so a primitive nature of exchange — shoes for equipment, equipment for sugar, sugar for shoes — has become our way of life. I'm afraid that if some emergency measures are not taken soon, sometime next year we will have a 100 percent rationing system, in both our productive sector and consumer

sector. In this situation ruble earnings lose all force as an economic stimulus.

At the same time, it is objective reality that we can't rely on the governing force or administrative measures to stimulate the economy. And I have not yet mentioned the dangers of social unrest, social turmoil. You know, of course, about the general strike of our coal miners, and I am afraid that strike might have been only the beginning. So the main question for me for the next one or two years is the question of how to maintain social stability.

Hewett: So this is the genesis of your program for importing consumer goods?

Shmelev: Importing consumer goods is only part of my program.

Hewett: Will you explain what the Shmelev program is?



"... if you're going to have a successful reform, you will have to increase prices, and the sooner the better."

— E. H.

The Shmelev Program

Shmelev: Yes, of course, I'll try to explain. The highest priority is to get the surplus money out of our economy. Just now, our people have 400–450 billion rubles saved up and nothing to spend it on. You can take that surplus money out of the economy by three possible methods. The first one: a drastic increase in the prices of consumer goods. That's impossible just now, impossible. It would be a very effective step purely from an economic point of view, but it is unthinkable just now because of our

social problems, social tensions. People are grappling with increasing shortages in all our shops. To raise prices in this situation would undermine any faith, any belief in our perestroika.

Hewett: I'm going to argue with you on that point, but let's come back to it.

Shmelev: I think all our economic leaders agree that consumer prices cannot be raised. They understand the dangers of such a drastic step.

The second way: a ruthless money reform to confiscate surplus money from our population. This reform is also dangerous but less dangerous than increasing consumer prices. In this case the crowds on the street will be our supporters, those people without savings. By confiscating money you can, of course, get an equilibrium between money and commodity supply on the consumer market, but a very considerable part of our population would lose faith in our perestroika, in our leader. I think such a money reform is undesirable. It's possible, but undesirable.

The third method: to diminish by every possible means the existing surplus of money in our economy but without even any hint of robbing our people. Now, how would I do this? First of all, I would sell all state-owned assets to common people — land, flats, stocks of materials, construction materials, tractors, everything you can imagine, everything.

Hewett: Do you mean you would sell land and make it private ownership, or do you mean long-term lease?

Shmelev: I prefer private ownership, but I'm afraid that for us just now that is too radical a step from an ideological point of view. I'm a realist. Our people were brought up in such an egalitarian tradition that I doubt they will approve and accept such a proposal, but maybe sometime. So, one part of my program is to sell everything.

Second, I would somehow mobilize our unfortunately weak banking system to get surplus money out of the economy. I would sell state bonds at a decent interest rate, say between 6 and 8 percent.

Hewett: At about the level of the rate of inflation.

Shmelev: Inflation runs from 7 to 9 percent just now. And I would sell shares of our enterprises to anybody who wants to buy them.

Hewett: Including foreigners?

Shmelev: Including foreigners, including people who are not employees in these enterprises, to people on the street.

Hewett: Would you sell 100 percent of an enterprise to private individuals, which is privatization?

Shmelev: You are asking me about my personal opinion?

Hewett: Yes.

Shmelev: I'm in favor of this, but again I'm afraid it is not realistic.

Third, I would use all possible means to increase the imports of our consumer goods for three to five years to ease our market shortages and to make the ruble work.

Hewett: In other words, you want the ruble to become money.

Shmelev: Yes, to become money. The question is where to get the money to pay for increased imports. I think that by maneuvering the structure of our imports, we can spare a little money for buying consumer goods. Maybe you know that one of my proposals — unfortunately, only one — is now being implemented, the proposal to pay hard currency to

our farmers for their above-quota supplies of grain and oil seeds. Since buying grain domestically is less expensive than importing it, even if we pay our farmers hard currency, some money should be freed up for importing consumer goods. We should also not complete any new contracts for imports for huge projects in our heavy industries and cancel any imports that

would not violate already-signed contracts. And there are some other ways we could shift a little money from our current imports to imports of consumer goods.

Another way to free up some money for importing consumer goods is to reduce considerably — I prefer, fully — our aid to some of our friends in the world. It costs us too much.

Hewett: Aid to Korea, Vietnam?

Shmelev: I beg you to be delicate in this question. Not to name names.

Hewett: But you've already said this in the Soviet Union.

Shmelev: Yes, okay. North Korea. Vietnam. Of course, they need some support but not in such huge quantities just now. Cuba. Nicaragua. Ethiopia. Angola. Afghanistan. This is a political decision.

Hewett: So are the others.

Shmelev: Reducing aid is a question point for you too, perhaps. Our governments are tied with one rope on this question.

Hewett: In any event, you would reduce the flow of Soviet foreign

aid to free up funds for consumer goods.

Shmelev: Yes, I think so. It is also possible to borrow a little money under the security or guarantee of our gold reserves. Not to sell our gold reserves. If we sell too many of our reserves, we will destroy the gold market.

Hewett: An investment banker would say that you are going to leverage your reserves, which is precisely the strategy that I've heard investment bankers say you should follow.

Price Increases: Sooner or Later?

Hewett: Let's talk for a minute about price increases. You and I know that in the long run if you're going to have a successful reform, you will have to increase prices, and the sooner the better.

Shmelev: No, no, the later the better.

Hewett: You are talking politics. I am talking economics.



"... I would use all possible means to increase the imports of our consumer goods for three to five years. . . ."

— N. S.

Shmelev: In economics we should do it tomorrow.

Hewett: And I don't understand, as an aside, why Soviet economists have started being more political than some of the politicians. Economists are terrible politicians.

Shmelev: Maybe they have a little more imagination than our politicians. It's a question of imagination. All of us are frightened of social problems if prices are raised.

Hewett: I've been going to the Soviet Union for a long time, and throughout this period of perestroika, I've talked to Soviet economists about the reform. Soviet economists always have reasons for why taking a radical economic step in the next six months will make things worse.

You don't take the radical step, things get worse, and then you come up with yet a new reason. The current reason is social problems. Yet we all know that if shortages in the market are not attacked soon, and attacked decisively, the social problems could become much, much worse.

Right now, the solution many Soviet economists propose is reminiscent of supply-side economics in the United States in the early 1980s. You see a difference between supply and demand, you say it's all a supply-side problem. Once the supply-side problem is solved, you say, then we'll deal with the demand-side problem. Yet you know you've got to deal with both sides of the problem if you're going to fix it.

Now, what I want to point out is that some of the Shmelev program would result in price increases but in an indirect way. That is, if you expand the supply of consumer goods through imports and price them at 10 rubles to the dollar — when the official exchange rate is 65 kopeks to the dollar — you're going to raise the effective price of those goods to consumers. You will, in effect, be confiscating some of their rubles, which has to happen.

Shmelev: Yes, destroy those rubles.

Hewett: Yes, throw them away. You and I don't disagree on this, but I think, as we say in English, you should call a spade a spade. The Soviet leadership is looking for a politically palatable way to do what it has to do, which is to say to the population, "those rubles in your hands, 400–450 billion rubles, really are promises that, for the most part, we cannot keep." The government can keep part of the promise, but if the ruble is going to become money, the first thing that

has to happen is that many of those rubles have to be burned, and the only issue you and I disagree on is how.

Retail price reform clearly should have been done in 1985–86. It wasn't, and every day your leadership postpones reform, it gets harder, not easier. You said earlier that if the country could just make it through the next couple of years, it would be okay. Frankly, I think that's an illusion. I don't think things will be okay two years from now.

Shmelev: Sometimes I'm afraid that you, Ed, you are too much of an academician, a theorist, and not so practical. And, please, let's forget about the theories of supply and demand relations, the justifications about these theories. Let's talk in terms of common sense. Look at the experience of our Chinese friends. They spent somewhere around 10 years concentrating on one great economic problem — how to end their consumer market shortage. Only after they had increased the supply of consumer goods did they decide to go further and begin to change prices, price relations, especially the relation between subsidized prices and market prices.

Just now we are hearing a lot about the political implications of the Chinese government's crack-down on the students in Tiananmen Square. I suspect there was also an economic reason for that disturbance, that price changes

played a part. Personally I'm afraid something similar could happen in our case. We chose — it was a mistake, I agree with you — we chose the wrong sequence, the wrong algorithms, for our economic reform. We began by reforming our economic mechanism while we had shortages in our consumer market. The ruble did not work then, it does not work, and it will not work until we make more consumer goods available. So we did make mistakes. I think we were really unlucky too.

Hewett: Yes, you've had some bad luck — the decline in oil prices, Chernobyl, the earthquake in Armenia. These things were out of your control.

But mistakes in economic policy made things even worse. What went wrong in 1984 and 1985? Mikhail Gorbachev was talking to economists. There were already voices, including yours, for radical measures. And yet it's been a very slow-moving reform for four years.

Shmelev: I don't want to insult anybody, but I am



*"Retail price reform
should have been
done in 1985–86. It
wasn't, and every
day [reform] gets
harder, not easier."*

— E. H.

afraid the answer is very simple. The almightys, the political almightys thought they could do everything.

Hewett: So they acted as if they were all-knowing, all-powerful. It's clear, though, that in the Soviet Union, the economists are blamed for some of the problems, that Gorbachev at times says it is their fault as much as his became they gave him bad advice.

Shmelev: Somebody must be guilty.

Hewett: Well, yes, somebody must be guilty.

Shmelev: I don't think our economists can be blamed for all the mistakes. Only a crazy economist, for example, could have advised something like that anti-alcohol campaign.

Hewett: That clearly was foolish.

Shmelev: That was an invention of our political leadership; it had no economic basis. I cannot accept trying to blame economists for everything. You know, in the 1930s our government was mostly shooting all our best economists. In the 1950s and '60s the government tried, and very successfully, to silence all of them, to keep them underground. And never, never did the government listen to any serious advice from professional economists.

I remember this from personal experience, and I'm sure the same story applies to all serious economists. We wrote tons of papers, reports, confidential briefs, but nobody wanted to read them. It's not in the tradition of our leadership to seek advice from professional people, and a great change in our cultural, intellectual climate, even our spiritual climate, came when Gorbachev began to consult qualified people. Now, he not only reads, but listens, and sometimes — unfortunately not always, but sometimes — he accepts our advice.

Hewett: He has even put some economists, like Deputy Prime Minister Leonid Abalkin, in the government.

Shmelev: From my point of view, it's a great step forward in our political lives.

Hewett: I agree.

Catching Mice

Hewett: I want to ask you about ideology and the role...

Shmelev: There I should confess that I don't like any ideology — yours, either.

Hewett: All right. You don't like ours. You don't

like yours. What basic principles, then, do you think the Soviet Union is moving toward? Let me give you an example of what I mean. Leonid Abalkin wrote an article in *Ekonomicheskaya Gazeta* in the fall of 1988 about property, in which he asked: "What makes an enterprise socialist?" The answer he and you and I knew five years ago was: "An enterprise is socialist if

it is owned by the state." His answer in this article was: "An enterprise is socialist if it makes money. If it doesn't make money, it's not a socialist enterprise." By that reckoning General Motors is socialist some years; other years, it's not.

It seems to me that sort of pragmatism is spreading in the debate in the Soviet Union. Can you tell us how far it has spread? You said earlier that you favored private ownership of land and agriculture, but you thought that was too far to go at the moment. Where are the boundaries now, and why are they there?

For example, what is the reason for the opposition to, say, private ownership of land? Does it stem from turn-of-the-century socialism, the basic concerns about the distribution of wealth, the distribution of income? Or does it simply come from a fear that privatization will bring with it unpredictable consequences, that some people will become millionaires and others will fall into abject poverty? Where is the Soviet Union now ideologically? What sort of guide-

lines do you see emerging?

Shmelev: I think you understand that the main conflict in our political tradition is the contradiction between economic efficiency and social security. Any regime, any social system — your political system, our political system, even the Nazi political system — all of them trying to find the balance between economic efficiency and social security. Just now many in the USSR are desperately looking for some distinctive features of that slogan, that word, "socialism," to distinguish it from your social system or any other imaginable social system.

I've thought all my life about all those distinctions between socialism and capitalism, and now I've had enough. I'm really not interested in defining the difference between socialism and capitalism. I'm interested only in practical results, only in common sense, only in restoring our almost destroyed economy. As a motto, as a guiding principle for myself, I choose those well-known words of Mr. Deng Xiaoping:



"Only a crazy economist, for example, could have advised something like that anti-alcohol campaign."

— N. S.

"Black cat, white cat, it doesn't matter so long as the cat catches mice."

There is a circle of people like me, who are our intellectuals, who are ready to refuse any ideological guidelines and to deal on purely practical terms. I don't think there are many of us, no. The great majority of us are ideologically biased, and these desperate attempts to find some new comprehensive construct, ideological, political, and economic construct of socialism, will be the main feature of our cultural and social science debates. Quarreling about what is the right determination of socialism, of capitalism, and the differences between them. For the majority of us, this is our beloved entertainment.

Hewett: You are a member of the Congress of People's Deputies. One of your colleagues in that Congress recently made a speech in which he listed the socialist countries. Remind me who that was.

Shmelev: It was the well-known writer Chengis Akhmatov.

Hewett: And what countries were on the list?

Shmelev: I don't remember exactly, but a really interesting list — Sweden, Belgium, Switzerland, Finland — and, I'm afraid, France.

Hewett: But not the United States?

Shmelev: He did not mention the United States, but it was understood that your country is good for this company too.

Hewett: You know, the difficulty with not caring whether the cat is black or white in the economic sphere is that pragmatism almost immediately becomes political. And the logical conclusion of that pragmatism is a multiparty system, in which the Communist party plays a minority role.

Shmelev: In principle, I understand, and I agree with you that a multiparty system would be much better and more effective in balancing the different interests of our society, finding some kind of compromise. But just now I'm afraid of a multiparty system because it will be organized on an artificial basis. Except for the Communist party, all parties will be based purely on nationalism, not on any special social or economic program.

The Muslim Brotherhood, the Ukraines, the Baltic republics — all would be organized on a nationalistic basis, and I'm afraid of this basis. Some younger people shouting slogans in Uzbek can collect around them tens or thousands. People from the Democratic Union may collect supporters. But none of these movements offers a serious comprehensive alternative to the Communist party. All of their programs may be characterized by a single phrase: "Give back the Winter Palace. Give back the Winter Palace." But to whom? Who will take this Winter Palace?

I can imagine that in the near future, say a decade, some organic alternative somehow will appear from our everyday life, a comprehensive alternative, which would be quite a new way for our nation to develop.

But just now all serious alternatives, all serious differences of opinion are represented in the Communist party, left wing, right wing, a little more left, a little less right. All of these alternatives are represented within this ideological — but I don't like this word — this framework.

Supporting Perestroika

Hewett: I have a last question, a more practical policy issue. You're here in Washington in an unfamiliar role for you, as part of the Shevardnadze delegation to the summit between foreign ministers, and you'll be having discussions about U.S.-Soviet relations. What sort of policies would you urge upon the United States? I know you're not an adviser to the U.S. government, but what sort of policy do you think would be most helpful to the success of perestroika, which our president says he wants to see.

Shmelev: My desire, or my advice, I don't know how to call it: stop hesitating, please. Determine your position on what is going on in the Soviet Union. I am sure that any support from your government in any form — in arms control and disarmament proposals, or regulating regional conflicts, or in the economic field — any support will be welcome for Gorbachev's personal stability and the stability of his policies. This is in your own national interest. If the Soviet Union collapses now, nobody in this world will gain anything from it. Disturbances and the deterioration of the decent life in our country are not in the interest of any country.

Hewett: One of the concerns among American leaders is that Gorbachev's position is indeed very weak and that any agreements we make or any measures we take might have very little effect. We might even find suddenly that we have a favorable policy toward a conservative Soviet Union, say, a Soviet Union led by Yegor Ligachev, which is the typical scenario.

Shmelev: Maybe I'm a little subjective, but I think you underestimate Gorbachev's political skills a little.

Hewett: Mind you, I'm with you.

Shmelev: He's getting stronger and stronger.

Hewett: Yes.

Shmelev: Of course, our problems are increasing also. It's a paradox. But even as our problems worsen, Gorbachev himself and his policies are stronger. And if we can survive the next year or maybe year and a half, his position will become unassailable. I'm really quite serious about that. I don't see any other national figure just now on our political scene who is a real alternative, from the right wing, from the left wing, it doesn't matter. Nobody can compare.

As one of our deputies stressed, now in our country we have only two great men, Andrei Sakharov and Mikhail Gorbachev. Sakharov is our conscience, but he's not a practical politician. For practical politicians, Gorbachev is our only alternative.

Pay, Participation, and Productivity

Alan S. Blinder

America's dismal productivity performance during the 1970s and 1980s is the nation's chief economic disorder and should be the chief concern of economic policymakers. From 1973 to 1988, output per worker-hour in all U.S. businesses grew at a paltry compound rate of 1.05 percent a year. That is barely more than a third of the growth rate we enjoyed during the halcyon 1947-73 period (2.96 percent a year) and, more important, only about half the long-term historic average. Had U.S. productivity grown at 2 percent since 1973, instead of 1.05 percent, standards of living in the United States would now be about 16 percent higher. If the rate of productivity growth stays so depressed for a protracted period of time, America is destined to slip into the second rank of nations in terms of wealth and income, just as the United Kingdom did before us. To most Americans, that is a distasteful prospect.

Suggestions for boosting U.S. productivity are not hard to come by; but *good* suggestions are rare. The best way to raise productivity growth, and perhaps the only way to do so permanently, is to speed up the pace of technological innovation. Unfortunately, no one has a reliable formula for making a society more innovative, although better scientific education and more spending on research and development would presumably help.

By contrast, we know much more — though certainly not as much as we would like — about how to increase the rate of capital formation. Perhaps that is

why both economists and policymakers who think about ways to spur productivity keep coming back to incentives for saving and investment. For example, suggestions for various and sundry tax breaks for capital abound.

Unfortunately, help from this quarter is likely to be small, and for a simple reason: Capital inputs amount to no more than 30 percent of the economy's total costs. A permanent 10 percent increase in the rate of investment, which would eventually raise the nation's capital stock by 10 percent, would be a signal achievement. But with capital accounting for only about 30 percent of total costs, a 10 percent increase in the capital stock would raise labor productivity (output per hour of work) only about 3 percent. And even this small effect would be a long time coming. After five years, a 10 percent higher investment rate would be expected to boost labor productivity only 1.2 percent, about two-tenths of a percent a year.

Labor presents a more tempting target because it accounts for at least 70 percent of total costs. If we could figure out a way to make labor 10 percent more efficient, so that workers could accomplish in an hour what now takes 66 minutes, output per hour of work would rise by about 7 percent even with no increase in capital. Furthermore, such an increase in labor productivity would soon pull investment along. And if that were to happen in a short time, the transitory increase in productivity growth would be impressive.

A nation has many ways to try to improve the ef-

fectiveness of its labor inputs. One of them is changing the way labor is compensated for its efforts. If a change in the pay system could indeed raise productivity, it would be a particularly attractive way of doing so, for it would require little or no sacrifice of real resources. By contrast, other (possibly good) ideas for improving the quality of the work force — reducing illiteracy, for example — carry steep price tags.

Yet people who worry about productivity rarely think or write about changing the way workers are paid. It is as if existing institutional arrangements, including the wage system, were part of the natural order of things. In fact, however, a society starting over again to design a pay system to encourage high productivity would be most unlikely to choose the conventional wage system. Workers are now paid not for output produced, nor even for labor input provided, but simply for time spent on the job. From what economists and psychologists know about incentives, such a system should not be expected to call forth labor's best efforts. The notion that linking pay to performance might improve labor productivity is hardly startling.

What is "obvious," however, is not always true, and introspection is a notoriously unreliable guide to empirical magnitudes. Do incentives like piece rates, profit sharing, and gain sharing have important effects on labor productivity? To begin to answer those questions, Brookings asked me to assemble a group of experts on issues of pay and productivity to examine the empirical evidence available both here and abroad. Their findings, which are summarized here, confirm, more strongly than I expected, that pay incentives can improve productivity. More surprising, the experts find that the way workers are treated may affect productivity as much as, if not more than, the way workers are paid.

Lessons of History

The idea that individual or group pay incentives might motivate workers to higher levels of performance is not new. Piece rates date back to the preindustrial era and were in common use in manufacturing during the 19th century. Both gain sharing, which ties wages to some measure of group output or costs, and profit sharing trace their roots back to the 19th century.

Daniel Mitchell, David Lewin, and Edward Lawler find two noteworthy themes in the history of thinking on and experience with alternative compensation systems. One is that rising and falling tides of interest in the various incentive plans have more to do with changing social, political, and economic fashions than with accumulating scientific evidence on how well the plans work. The other is that advocates of incentives have typically thought of and designed them not as partial substitutes for straight wages, but as add-ons

that raise total compensation. The authors dub this the "gravy" view.

Mitchell and his coauthors offer several pieces of econometric evidence to show that recent incentive plans have been gravy. First, they estimate from industry wage surveys covering the years 1979–86 that workers on incentive plans like piece rates or production bonuses earned about 11 percent more an hour than other workers. Second, using data from the 1970s, they estimate that workers who received cash bonuses (including cash profit sharing) were not paid lower straight wages. Third, using data from the 1950s, they estimate that the presence of profit sharing in the compensation package did not reduce other fringe benefits.

Taken together, these findings invite the interpretation that workers on profit sharing or incentives are more productive than workers on straight wages. After all, if they did not produce more, why would their employers pay them more? But even if workers on profit sharing are more productive, two critical questions remain.

The first one is, do profit sharing and other incentives actually boost productivity, or do they simply attract the most productive workers to jobs where high productivity is rewarded? This issue is critical to em-

The Experts

Alan S. Blinder is the Gordon S. Rentschler Memorial Professor of Economics and chairman of the department of economics at Princeton. The experts whose work he has summarized here are Michael A. Conte, professor of economics at the University of Baltimore; Masanori Hashimoto, professor of economics at Ohio State; Douglas L. Kruse, assistant professor of industrial relations and human resources at Rutgers.

Edward E. Lawler III, professor of management and organization and the director of the Center for Effective Organization in the School of Business at the University of Southern California; David I. Levine, assistant professor, Haas School of Business Administration at the University of California, Berkeley; David Lewin, professor of business at Columbia.

Daniel J. B. Mitchell, the director of the Institute of Industrial Relations at the University of California, Los Angeles; Jan Svejnar, professor of economics at the University of Pittsburgh; Laura D'Andrea Tyson, professor of economics at the University of California, Berkeley; and Martin L. Weitzman, professor of economics at Harvard.

A complete report on their findings can be found in the new Brookings book, *Paying for Productivity: A Look at the Evidence*, which Blinder edited.

pirical research on alternative pay schemes. But it may not be critical to a firm deciding whether to institute profit sharing. After all, such a firm cares more about *whether* its productivity will rise than why it rises. From society's point of view, however, the source of the productivity gain is crucial. If profit sharing merely shifts workers from one company to another, society as a whole neither gains nor loses. But if profit sharing actually raises the productivity of individual workers, society reaps an important benefit.

The second question is whether profit sharing raises productivity enough to pay for itself. At first blush, the answer seems obvious: If worker productivity goes up and profits are shared, owners of capital must come out ahead. But the issue is more subtle under the gravy view. For example, suppose workers on profit sharing earn, on average, 10 percent more than workers on straight wages. If a firm is to benefit from profit sharing in that case, labor productivity must rise at least 10 percent. If it goes up less than 10 percent, the firm loses money despite the gain in productivity. Not enough is known about productivity gains from profit sharing, but it is far from clear that profit sharing pays for itself.

Mitchell, Lewin, and Lawler survey a wide variety of case study evidence, largely of rather low quality, and find that most of it supports the notion that profit sharing, gain sharing, and incentive payments help boost productivity. The case histories also suggest that profit sharing and gain sharing seem to succeed more often when they are combined with some type of worker participation in decisionmaking.

The authors also estimate the effects of both alternative compensation methods and worker participation on various measures of firm performance, using the new Columbia Business Unit data set. They find that employee participation, profit sharing for production workers, and possibly employee stock ownership plans (ESOPs) have positive effects on productivity. The estimated average productivity gain from profit sharing is 8.4 percent, which is sizable. But the authors' regressions fail to detect the positive interaction between participation and profit sharing suggested by the case studies.

Profit Sharing and Productivity

Martin Weitzman and Douglas Kruse focus on whether profit sharing increases productivity. To answer that question, they begin with the unremarkable proposition that paying for performance should elicit better performance than paying just for time. Thus profit sharing should be superior to straight wages. This simple intuition seems compelling at first, but it is open to three main theoretical objections.

The first might be called the one of many, or $1/n$, problem. An individual worker in a firm with many employees gains little if his efforts raise company

profits. Realizing this, he or she may be inclined to shirk. If everyone shirks, group productivity is low and everyone fares poorly. If everyone works hard, creating more profits to share, the whole group is better off. But how can the cooperative equilibrium be sustained when n is large?

Weitzman and Kruse note that this problem is a classic prisoner's dilemma game, in which the prisoner knows that the police do not have enough evidence to convict him unless his partner, who is also under arrest, implicates him. But the prisoner also knows that, in the event of a conviction, he can get a lighter sentence by ratting on his partner. The dilemma is whether to keep silent (the cooperative solution) or talk to the police. In the work place, the prisoner's dilemma game is one that workers play repeatedly, not just once. Since repeated games admit a multiplicity of solutions, possibly including the cooperative one, Weitzman and Kruse conclude that the $1/n$ problem, though real, is not a decisive objection to profit sharing. But will the cooperative, high-productivity solution actually emerge? The theory is mum on this point. As the authors put it, managers may have to do more than install profit sharing and walk out the door. To garner a productivity bonus, they may have to develop a corporate culture that emphasizes cohesiveness and cooperation.

The second theoretical problem is risk aversion. Linking pay tightly to performance might lead to higher productivity. But it will also give workers more variable income, which they may dislike. Efficient labor contracts must balance these two concerns, and the theoretical literature suggests that the optimal contract almost certainly mixes some profit sharing with a base wage.

The third issue pertains to the appropriate roles of labor and capital in decisionmaking. Some critics argue that profit sharing leads to demands for worker participation in management and that such participation necessarily undermines efficiency. In theory, however, efficiency demands that capitalists make all the decisions only if they can supervise and monitor workers costlessly, a situation most unlikely in practice. If, on the other hand, workers can monitor and motivate fellow workers more effectively than managers can, then worker participation may actually raise productivity. Weitzman and Kruse suggest that theory reinforces the finding that the optimal labor contract probably has a profit-sharing component.

Economic theory thus modifies and qualifies, but does not overturn, the simple intuition that tying pay to performance should raise productivity. What does the empirical evidence say?

Weitzman and Kruse examine a broad array of evidence. First, a look across both socialist and capitalist countries suggests to them that productivity is probably higher when more people care about making en-

terprises profitable. Second, like Mitchell, Lewin, and Lawler, they find that the case study evidence shows that profit sharing has a positive effect on productivity and that worker participation may help. Third, opinion polls usually find that both employees and employers believe profit sharing boosts productivity.

Fourth, and most intriguing, Weitzman and Kruse note that a large number of independent, though relatively weak, results can add up to a strong statistical case when the results point in the same direction. A literature search turned up 16 studies using 42 different data samples that estimated the productivity effect of profit sharing. Many of these studies have flaws; none are beyond reproach; several obtain weak results. But the consistency of the disparate results is striking.

Out of the 218 estimated profit-sharing coefficients, only 6 percent are negative, and none significantly so. By contrast, 60 percent of all the regression coefficients are significantly positive. The odds that this could happen by chance are infinitesimal. This, I believe, is the strongest evidence adduced to date that profit sharing boosts productivity.

How large is the estimated productivity dividend? Among the 101 coefficients for which Weitzman and Kruse have enough information to answer the ques-

tion, the median estimate is 4.4 percent, and half of them fall between 2.5 percent and 11 percent.

Employee Stock Ownership Plans

Employee stock ownership plans are sometimes confused with profit sharing. In principle, they are something quite different. ESOPs pay benefits in company stock rather than in cash, and the company's contributions need not be tied to profits. Deferred profit sharing plans, however, are more like ESOPs, especially when the deferred compensation is held in company stock. And most profit sharing is deferred.

ESOPs were accorded special tax status largely as a way to democratize American capitalism by spreading stock ownership, not as a way to improve worker performance. Nonetheless, the argument that tying the fortunes of labor and capital together might improve productivity has been applied to ESOPs, just as it has to profit sharing. In fact, many of the theoretical arguments dealt with by Weitzman and Kruse apply equally well to ESOPs.

After reviewing the limited number of studies on ESOPs and productivity, plus some related studies of European cooperatives, Michael Conte and Jan Svejnar judge the evidence too mixed to support any



strong conclusion. ESOPs have not been found to harm either productivity or any other measure of company performance, and several studies suggest that they help. But the strong positive effect estimated in the first study of ESOPs and productivity has not been verified by subsequent research. On the other hand, Conte and Svejnar argue that the evidence is much stronger that participatory institutions combined with ESOPs improve performance. They believe it is not voting rights or seats on the board of directors, that help the most, but in-plant committees and consultative mechanisms.

Appraising Worker Participation

Literature surveys suggest that worker participation boosts the effectiveness of pay incentives. But do participatory institutions foster higher productivity?

Solid empirical evidence on this question is hard to come by because participation is a vague term encompassing a wide variety of labor-relations practices, including quality circles, work teams, labor-management consultation, and employee representation on corporate boards. Moreover, the existing studies use divergent methodologies, and many offer no quantitative measure of the effect of participation on productivity. Nonetheless, David Levine and Laura D'Andrea Tyson make a heroic effort to summarize the disparate empirical evidence.

If one ignores research on cooperatives — which are special (though often successful) cases — there are 29 studies in all. Of these, only 2 conclude that participation hurts productivity, whereas 14 find that it helps notably or in a lasting way or both. The other 13 offer more ambiguous results; the estimated productivity gains are small, short-lived, or dependent on other factors. This evidence makes it much easier to believe that participation helps rather than hurts productivity, Levine and Tyson conclude.

Under what conditions do participatory arrangements work best? Levine and Tyson argue that there are four mutually supporting pillars:

- *profit sharing or gain sharing*, to make workers feel that cooperative behavior is rewarded;
- *guaranteed long-term employment*, to give workers long time horizons so they do not feel threatened by change;
- *relatively narrow wage differentials*, apart from those attributable to seniority, to promote group cohesiveness and solidarity; and
- *guarantees of worker rights*, such as dismissal only for just cause.

If participation really can raise productivity at little cost to firms, why is it so rare in the United States? Why is it so much more common in some other countries? Levine and Tyson offer two possible answers.

The first is that the attractiveness of participatory institutions depends on the economic environment

within which firms operate. Participation works better in countries where average unemployment is low, recessions are mild and infrequent, and providers of capital have long time horizons and close working relationships with the businesses they finance. (According to Levine and Tyson, the causation works both ways: participation also helps achieve low unemployment and mild recessions.) These conditions characterize Japan and Sweden, say, much better than the United States.

The second explanation rests on externalities: participatory arrangements work best for one firm when they are also used by others. For example, a firm that pays narrower wage differentials than others may find its best workers quitting, while less-experienced, less productive applicants flood its personnel office. The problem evaporates, however, if all firms offer the same egalitarian wage structure. Similarly, a firm that dismisses only for just cause may find itself attracting an inordinate number of workers who like to shirk, if competing firms continue to dismiss workers at will. But if all firms adopt dismissal only for just cause, the adverse selection problem disappears. The upshot, Levine and Tyson argue, is that an economy may have two equilibriums: a superior one with participation, and an inferior one without.

Worse yet, if attained, the participatory equilibrium, may have a tendency to unravel. Consider wage differentials, for example. If, starting from an equilibrium with narrow wage differentials, one firm begins to offer premium wages to star workers, other firms will find themselves losing their best talent. If they react by widening their own pay differentials, the participatory equilibrium comes apart. A strong social consensus or legislative encouragement may be necessary to achieve and maintain an equilibrium with high levels of participation.

Labor Relations in Japan

A few years ago, many Americans thought that the key to Japan's industrial success was more and better capital. Now we are coming to realize that the Japanese edge comes from knowing how to use people, not machines. That is certainly Masanori Hashimoto's view. He points to nine significant differences between the Japanese and American industrial relations systems:

- Long-term employment is both more prevalent and more formal in Japan, where dismissals and layoffs are extremely rare. So the Japanese worker has enough job security to identify with the company and to accept industrial change willingly.
- Wages are tied more tightly to seniority in Japan than in the United States, which Hashimoto interprets as evidence that Japanese companies invest more in firm-specific human capital.
- Japanese workers receive a substantial share of

their compensation in semiannual bonuses, which are uncommon in the United States. These bonuses make wages more flexible and, to the extent that they serve as profit sharing, might enhance productivity.

□ Japanese unions are organized along enterprise lines, not along the craft or industrial lines that typify American unions. The Japanese model creates greater commonality of interests between labor and business leaders and makes it easier for unions to assist in monitoring worker performance.

□ Wage bargaining in Japan is synchronized in an annual spring offensive called *shunto*. This system helps make wages more flexible than in the United States, where collective bargaining is decentralized and staggered.

□ Japanese labor contracts are brief and sketchy, leaving a great deal to on-the-spot decisions in the workplace arrived at by mutual consent. American labor contracts, by contrast, are long documents that try to spell out everything in writing, thereby rigidifying the employment relationship.

□ Quality control circles are used much more, and apparently more effectively, in Japan.

□ Japanese managers devote much more time and energy to joint consultations with labor than their American counterparts do. These procedures, which are often formalized, facilitate communication, foster harmony, and promote a fair sharing of the gains from innovation.

□ Decisionmaking within Japanese firms is based on consensus building, including the involvement of labor. American managers exercise more control from the top.

Hashimoto's list goes well beyond the four factors emphasized by Levine and Tyson. Which are the key ingredients? Hashimoto contends that joint consultation and consensus-based decisionmaking are the cornerstone of the Japanese industrial relations system. Japanese businesses make enormous investments of time and money in these mechanisms; they must believe that their investments pay off. Why, then, do American businesses not do the same? There are only three possibilities: American business is underinvesting in participatory mechanisms, or Japanese business is overinvesting, or such investments are more profitable in Japan than in the United States.

Hashimoto favors the last explanation. He is therefore hesitant to recommend importing Japanese industrial relations practices to America. Specifically, he hypothesizes that the Japanese invest more in the employment relation because the costs of joint consultation and of reaching decisions by consensus are lower in Japan, whereas the benefits are more or less the same in the two countries.

Is the hypothesis true? We don't know. We do know that Japanese managers take more care in screening job applicants. But that just shows that they invest more in the employment relation, not that it is cheaper

to do so. Hashimoto suggests that the greater homogeneity of the Japanese labor force reduces the costs of communication, which is plausible. But the fact that Japanese management techniques seem to work well in the United States — with American workers — gives one pause.

Levine and Tyson emphasize the first explanation, which leads them to recommend more participation. But the second explanation — that the Japanese overinvest in employee relations — should not be ruled out. Upper and middle managers in large Japanese companies spend many hours after work with employees in restaurants, at company picnics, and so on. Often the company picks up the bill. If these hours were counted as part of the workweek, rather than as leisure time, Japanese labor productivity, as conventionally measured, would be lower than it is.

Thus, though the differences between Japanese and American industrial relations practices are clear, the reasons for them are not. Nor is it clear that American firms would do better by moving toward Japanese industrial relations practices — although many people, including myself, suspect that this is true.

Conclusions

What, then, has this look at the evidence told us. First, there is good reason to believe profit sharing does indeed raise productivity, but much less reason to believe ESOPs do so. (Gain sharing may be the best system of all, but there are too few cases to support any strong judgments.) The evidence on profit sharing and productivity is particularly persuasive if one accepts the view that a large number of weak, but consistent, studies add up to a strong statistical case. It is not known, however, whether the productivity dividend is typically large enough to pay for the profit sharing, if the profit sharing is given as gravy.

Second, worker participation apparently does help make alternative compensation plans like profit sharing, gain sharing, and ESOPs work better — and also has beneficial effects of its own. This theme was totally unexpected when I organized the conference.

Which forms of participation raise productivity the most? We do not know. But giving labor a seat on the board of directors may be the least effective form of employee participation. Beyond that, there is controversy — and insufficient statistical evidence to resolve the dispute.

So, it appears that changing the way workers are treated may boost productivity more than changing the way they are paid, although profit sharing or employee stock ownership combined with worker participation may be the best system of all. That finding, and the evidence behind it, should be of intense interest to policymakers concerned with raising productivity and to business executives concerned with raising profits.

Stemming the Spread of Chemical Weapons

Elisa D. Harris

"Assessing the proliferation of chemical and biological weapons is one of the most difficult challenges we face in the intelligence community now and into the next decade. It is also one of our most important tasks, for these weapons may well represent one of the most serious threats to world peace in the coming years."

— CIA Director William H. Webster, October 25, 1988

Concern over the spread of chemical weapons has mounted steadily since the mid-1980s when Iraq used poison gas against Iranian military forces and later against its own Kurdish population. The potential dangers inherent in the proliferation of these weapons became even more apparent following revelations of Libya's attempts to acquire the capability to produce chemical weapons.

Elisa D. Harris, a senior research analyst in the Brookings Foreign Policy Studies program, is currently working on a study on chemical and biological arms control. This article is based on a paper Harris prepared as an SSRC-MacArthur Foundation Fellow in International Peace and Security Studies for a conference sponsored by the Aspen Strategy Group in Aspen, Colorado, August 13–18, 1989. A fully documented version will appear in the forthcoming conference volume, New Threats: Responding to the Proliferation of Nuclear, Chemical and Delivery Capabilities in the Third World, to be published by the University Press of America and Aspen Strategy Group.

These incidents sparked several actions during the past year to strengthen and expand the international legal regime governing chemical weapons. In January 1989, 149 countries reaffirmed their support for the 1925 Geneva Protocol prohibiting the use of chemical weapons in war. In September, the United States and the Soviet Union announced initiatives aimed at enhancing the prospects of a global treaty for the actual elimination of chemical weapons. First, at a meeting in Jackson Hole, Wyoming, the two sides agreed to exchange information and carry out inspections of each other's chemical weapons stockpiles and production facilities. And then at the United Nations, President George Bush proposed that the superpowers begin unilateral but mutual reductions in their chemical weapons stockpiles.

A halt to the spread of chemical weapons cannot come too soon. Already 12 countries outside NATO and the Warsaw Pact are thought likely to possess or to be developing chemical weapons. Other countries have been reported to be working toward acquiring such a capability. Who are these countries? What are the implications of continued proliferation? And what is the best potential solution to the problem?

The Data Problem

Despite numerous press reports alleging the development, possession, or use of chemical weapons by various countries, detailed and reliable information sub-

"After all, any country with a petrochemical, pesticide, fertilizer, or pharmaceutical industry has the potential in terms of equipment, raw materials, and technical expertise to produce some chemical warfare agents. Without direct access to such facilities, it is nearly impossible to know whether activities being undertaken are of a commercial or a military nature."

stantiating or disproving many of these reports is often publicly unavailable. This lack of data hinders efforts to ascertain the nature and extent of the proliferation problem in the developing world. Three factors contribute to the data problem.

First, most governments are reluctant to identify which countries have chemical weapons. Instead, government officials speaking on the record tend to characterize the proliferation problem in terms of the number of such countries. Even these numerical estimates are often imprecise and contradictory. In March 1988, for example, Rear Admiral William O. Studeman, the director of naval intelligence, testified that worldwide, "some ten countries possess a chemical warfare capability," with as many more "known or thought to be actively seeking it." A few months later, Kathleen Bailey, assistant director of the Arms Control and Disarmament Agency (ACDA), stated that about 15 countries were estimated to possess chemical weapons, with others trying to acquire them. In October 1988 CIA Director William H. Webster noted that "more than 20 countries may be developing chemical weapons." In January 1989, however, ACDA Director William F. Burns testified that although "about" 20 countries were capable of producing militarily significant amounts of chemical warfare agents, "no more than a handful, five or six," actually pos-

sessed stockpiles of these weapons. These estimates, it should be noted, are believed to include both developing countries and members of NATO and the Warsaw Pact.

A second factor contributing to the data problem is that government officials generally do not explain how they define a chemical weapons state. Having the capacity to produce chemical warfare agents is a very different matter from actually possessing a stockpile of weapons. Moreover, a militarily useful chemical warfare capability requires more than just the weapons themselves: it also requires training and doctrine for their use. Finally, there are important differences between countries with chemical weapons under their own control and those with foreign chemical weapons deployed on their territory.

Governments probably have a variety of reasons for not publicly identifying those countries that possess chemical weapons and for not discussing their capabilities more specifically. In some cases, they may be uncertain about precisely who does in fact have what capability. After all, any country with a petrochemical, pesticide, fertilizer, or pharmaceutical industry has the potential in terms of equipment, raw materials, and technical expertise to produce some chemical warfare agents. Without direct access to such facilities, it is nearly impossible to know whether activities being undertaken are of a commercial or a military nature. Equipment and chemical feedstock purchases on the international market may not reveal much either, as these too could be either for commercial or for military purposes. Even chemical delivery systems do not have distinctive features. An artillery shell, bomb, or missile warhead carrying a chemical warfare agent looks essentially the same as one carrying conventional high explosives.

Governments may also remain silent about the weapons programs of other states to avoid drawing attention to the role of their own chemical companies in the development of those programs. In other cases, governments may have political interests that preclude them from embarrassing new entrants to the chemical club. Governments may also fear that if they are more forthcoming with information about the chemical warfare activities of specific countries, the sources of this information and the methods by which it was acquired might be compromised.

A third contributing factor to the data problem concerns the credibility of the available information. The U.S. government, it must be acknowledged, has released more proliferation information than any other government. But the fact remains that much of what is known about chemical weapons programs in the developing world comes from press reports citing sources that cannot be independently verified, such as unnamed government officials and classified documents.

This credibility problem is not necessarily helped

by multiple press reports containing the same basic information. For example, one of the most detailed accounts of the proliferation problem, by Don Oberdorfer in a *Washington Post* story of September 1985, draws heavily from an earlier report by columnist Jack Anderson, which he said was based on intelligence sources and classified documents. Other press reports may also be derived from the same initial source or report. The possibility of erroneous information being unintentionally perpetuated must therefore not be overlooked.

False or exaggerated reports of the proliferation of chemical weapons may also be propagated intentionally. Concern about their spread can be used to build support for national chemical weapons armament programs. Charges that a domestic or foreign adversary has chemical weapons or has used them can help to discredit that adversary. Indeed, many of the more doubtful charges probably fall in this category.

Who Has Weapons, Who Does Not

These factors complicate, but do not preclude, an analysis of the proliferation problem in the developing world. In the discussion that follows, the publicly available information concerning the spread of chemical weapons is organized according to specific criteria. It should be emphasized, however, that these criteria are merely a tool for organizing the available information, and that conclusions derived from them about the status of particular countries are based largely on this information. The criteria used in this discussion are as follows:

□ *Known*: Those countries that have declared that they possess chemical weapons or whose use of such weapons has been definitively confirmed.

□ *Probable*: Those countries reported by U.S. government officials, on the record, as developing, producing, or possessing chemical weapons.

□ *Possible*: Those countries reported by Western government officials, generally off the record, as seeking to acquire chemical weapons or a production capability, or as being suspected of possessing chemical weapons.

□ *Doubtful*: Those countries reported, generally by domestic or foreign adversaries, as seeking to possess, possessing, or using chemical weapons, with no confirmation by Western government officials.

On the basis of these criteria, Iraq is the only non-NATO/Warsaw Pact country known to possess chemical weapons (*see table, below*). Eleven other countries, concentrated in Asia and the Middle East, probably have chemical weapons or are developing them: Burma, China, Egypt, Ethiopia, Iran, Israel, Libya, North Korea, Syria, Taiwan, and Vietnam. Another 11 countries are in the possible category: Angola, Argentina, Cuba, India, Indonesia, Laos, Pakistan, Somalia, South Africa, South Korea, and Thailand. Finally, 11 other countries are in the doubtful category: Afghanistan, Chad, Chile, El Salvador, Guatemala, Jordan, Mozambique, Nicaragua, Peru, the Philippines, and the Sudan.

It is difficult to know with any certainty why Iraq and the 11 countries that probably have chemical weapons decided to acquire them. Some tentative conclusions, however, can be drawn about the role political and military incentives may have played in those decisions.

None of these countries would appear to have acquired chemical weapons for reasons of political prestige. For chemical weapons to have *political* value as the "poor man's weapon of mass destruction," a country would have to publicly acknowledge possession of the weapons. Yet even Iraq did not admit its chemical warfare activities until July 1988. Indeed, many developing countries have asserted just the contrary, that they do not possess chemical weapons. Of the 11 countries that probably have chemical weapons, Burma, China, Egypt, Ethiopia, Israel, Libya, and Vietnam have denied possession. Countries in the possible and doubtful categories that have denied possession are Afghanistan, Argentina, Chile, India, Indonesia, Jordan, Nicaragua, Pakistan, Peru, the Philippines, South Africa, South Korea, and Thailand. These denials suggest that chemical weapons do not have the same sort of prestige value as nuclear weapons and that decisions to acquire them are based largely on military rather than political considerations.

Developing countries may have a variety of military incentives for acquiring chemical weapons. At least five countries, for example, may have acquired them for use in counterinsurgency operations in their own or neighboring states. Iraq's initial decision to obtain chemical weapons may have been related to its

Chemical Weapons in the Developing World

Known	Probable	Possible	Doubtful
Iraq	Burma	Angola	Afghanistan
	China	Argentina	Chad
	Egypt	Cuba	Chile
	Ethiopia	India	El Salvador
	Iran	Indonesia	Guatemala
	Israel	Laos	Jordan
	Libya	Pakistan	Mozambique
	North Korea	Somalia	Nicaragua
	Syria	South Africa	Peru
	Taiwan	South Korea	Philippines
	Vietnam	Thailand	Sudan



long history of problems with its Kurdish population. Burma is said to have sought chemical weapons for use against domestic insurgents. Egypt is believed to have used chemical weapons during its intervention in the civil war in Yemen in the 1960s. Ethiopia has had a long-standing problem with Eritrean secessionists, and the United States has accused Vietnam of using so-called yellow rain mycotoxins and other unidentified chemical agents against the Hmong in neighboring Laos and against resistance forces in Cambodia.

Developing countries facing a significant threat from conventional forces may also have a powerful incentive for acquiring chemical weapons. Iraq's more recent chemical weapons program was clearly a response to Iran's "human-wave" attacks during the Gulf war. The Egyptian and Syrian programs may be related to Israel's conventional superiority, particularly its highly effective air force. Ethiopia may value chemical weapons for use in its long-standing conflict with Somalia over the Ogaden. Libya is reported to have acquired and used chemical weapons in its war with neighboring Chad. North Korea may have obtained chemical weapons for use against South Korean and U.S. conventional forces. Taiwan's chemical weapons were reportedly acquired to thwart an invasion from mainland China, while Vietnam is reported to have used chemical weapons in 1979 against Chinese intervention forces.

At least three countries in the developing world may have acquired chemical weapons to deter enemy chemical use through the threat of retaliation in kind. Reports that China suffered chemical attacks during border skirmishes with the Soviet Union in 1969 and during its intervention in Vietnam in 1979 suggest a strong motive for a Chinese program. Israel is reported to have obtained chemical weapons in the 1970s in response to the threat from Egypt, and Iran almost certainly has acquired chemical weapons in response to Iraq's use of such weapons in the Gulf war.

Finally, developing countries may have acquired chemical weapons to counter an adversary's nuclear capability. Israel's alleged nuclear program, for example, may have stimulated the development or acquisition of chemical weapons by a number of Arab countries, including Iraq, Egypt, and Syria.

These military incentives probably outweighed existing moral and legal constraints on chemical warfare, which, as events in the Gulf war showed, clearly have weakened in recent years. Armament programs in the developing world probably have been helped even more by the erosion of political and technological barriers to the acquisition of chemical weapons.

Developing countries can bypass the technological problems altogether by procuring chemical weapons from other countries that have them, or they can seek to develop their own chemical weapons production capability by purchasing the necessary equipment and chemicals on the international market.

The United States has identified Soviet training, technical assistance, and chemical weapons transfers to allies in the developing world as key factors in the proliferation problem. In 1984, for example, Jack Anderson reported that the CIA had concluded that "Soviet military assistance has been a common source and major stimulus" to the momentum of chemical weapons proliferation in the Third World. Soviet President Mikhail Gorbachev has denied the U.S. charges, stating that the Soviet Union has not transferred chemical weapons to anyone, has not deployed them in the territory of other states, and "has always strictly abided by those principles in its practical policies."

Despite this denial, some developing countries apparently have benefited from Soviet assistance, but the Soviet role has almost certainly been overstated. Evidence indicates six developing countries — Egypt, Ethiopia, Libya, North Korea, Syria, and Vietnam — may once have received chemical weapons and related assistance directly from the Soviet Union.

Chemical weapons and technical assistance may also have been provided by one developing country to another. Egypt is believed to have supplied a small amount of chemical weapons to Syria in the early 1970s. More recently, Syria is reported to have helped Iran with its chemical weapons program, while Iran is said to have supplied chemical weapons to Libya in return for Soviet-made mines. Israel is reported to

have provided chemical agents to Taiwan and advice on the subject to China.

U.S. officials have acknowledged the role of commercial firms in the spread of chemical weapons in the developing world. With the exception of Ethiopia, all of the countries that probably have chemical weapons are now believed to possess their own manufacturing capabilities, often developed with chemicals and equipment purchased from Western companies. Companies in developing countries are also beginning to play a role in these indigenous production programs, as evidenced by the recent involvement of Indian firms in the sale of chemicals to various countries in the Middle East.

The Threat to Security

The spread of chemical weapons outside NATO and the Warsaw Pact is likely to have profound implications for international peace and security. If chemical weapons become more fashionable, various subnational groups, including terrorist organizations, may become more interested in acquiring them. With a basic knowledge of chemistry and a small amount of money, such groups can easily produce enough chemical agents to threaten an average-size city. Research quantities of ready-made agents such as mustard gas can also be purchased directly from some chemical manufacturers. Opportunities to steal chemical weapons may also increase as more and more countries acquire them. Subnational groups might obtain chemical weapons directly from states such as Libya and Iran that are sympathetic to their political aspirations.

At the national level, the spread of chemical weapons may lead to further proliferation in three ways. First, governments might decide they need the weapons to defend themselves against neighboring governments that have them. Second, chemical weapons may increasingly be seen as a legitimate means of countering conventional military threats, from either domestic insurgents or foreign forces. Third, proliferation may lead to chemical weapons being transferred more freely from one state to another and hence to further proliferation.

Proliferation could also make conflict itself more likely, particularly in unstable regions. After Iraq's use of chemical weapons during the Gulf war was confirmed, there were reports that the United States had examined the feasibility of taking military action against Iraqi production sites. More recently, Israel was reported to have considered a preemptive strike against a Syrian installation said to be developing nerve agent warheads for SS-21 and SCUD missiles, and President Reagan hinted at the possibility of U.S. military action against the Libyan chemical weapons plant at Rabta. Any of these actions could have led to a military confrontation between the countries involved.

"The spread of chemical weapons could also make conflict more destructive, particularly in the Middle East and Asia, where ballistic missiles are also proliferating."

The spread of chemical weapons could also make conflict more destructive, particularly in the Middle East and Asia, where ballistic missiles are also proliferating. During the Gulf war, Iraq and Iran used conventionally armed missiles to attack each other's cities. In the final months of the war, Iraq reportedly threatened to launch chemical strikes against large Iranian cities. At least seven countries that probably possess chemical weapons — China, Egypt, Israel, Libya, North Korea, Syria, and Taiwan — also possess ballistic missiles that could be modified to carry chemical warheads. The use of chemically armed ballistic missiles by any of these countries could result in unprecedented destruction. Used against Israel, they could even trigger a nuclear response.

The proliferation of both chemical weapons and sophisticated delivery systems also has implications for the superpowers themselves. With this type of military power in the hands of developing countries, both the United States and the Soviet Union are likely to find it increasingly difficult to pursue their regional interests. More important, the use of chemically armed ballistic missiles in a region like the Middle East could draw the superpowers in on the side of their respective allies, culminating in conflict between East and West.

Export Controls Are Not the Answer

Various proposals have been put forward to slow or end the proliferation of chemical weapons. One step pursued since 1984, when it became clear that Iraq's chemical weapons had been produced with material purchased from Western companies, has been to impose export controls on the precursor chemicals necessary to make chemical warfare agents. The United States was the first country to act, banning the sale of specific chemicals to Iraq and Iran. The United States

now prohibits the export of 40 precursor chemicals to Iraq, Iran, Syria, and Libya. Eleven of these chemicals are also controlled for most other countries because of concerns about the wider proliferation problem. The governments of Australia, Canada, Denmark, Finland, Israel, Japan, the Netherlands, Pakistan, the Republic of Ireland, the United Kingdom, and the Federal Republic of Germany have also controlled the export of a variety of different chemicals since 1984.

Following reports that an Iraqi pesticide plant purchased from West German firms was being used to produce nerve agents, Bonn also placed controls on a wide range of equipment that could be used to manufacture chemical weapons. West Germany moved to strengthen all of its controls in the aftermath of the recent controversy over the involvement of German firms in the construction of the Libyan chemical plant at Rabta. Controls were also approved by the European Community in 1984 and again in early 1989, and the Community is considering ways to coordinate controls on other material, such as equipment, that could be used to produce chemical weapons. The Soviet Union has also imposed export controls on certain chemical precursors, as have other members of the Warsaw Pact.

One glaring weakness of the early export controls was that the controlled chemicals varied from country to country. To help remedy this problem, Australia in 1985 hosted the first in a series of coordinating meetings of Western industrialized states. The original participants in the Australian Group were the 10 member states of the European Community, plus Australia, Canada, Japan, New Zealand, and the United States. Portugal, Spain, Norway, and Switzerland have since joined. Perhaps more important, the group has succeeded in developing a uniform list of chemicals to be controlled by all member states. Nine chemicals currently are on the group's "core list" of prohibited chemicals, and an additional 41 are on a "warning list" that has been circulated to private chemical companies in the hope that they will cooperate with government agencies in controlling their sale.

Mikhail Gorbachev proposed a second idea for halting the spread of chemical weapons in November 1985. Shortly before his summit conference in Geneva with President Reagan, the Soviet leader advanced the "thought" that the two sides could develop a treaty to curb the spread of chemical weapons, just as they had concluded a treaty to halt the spread of nuclear weapons. A few months later, in a major foreign policy address, Gorbachev suggested pursuing a chemical nonproliferation treaty, as an interim step, until all chemical weapons were eliminated under a global ban. The United States rejected the Soviet proposal, arguing that the most effective means of stopping proliferation was by concluding an agreement to ban the weapons. As U.S. State Department spokesman Bernard Kalb explained, "We believe that an effective

and verifiable global ban on all chemical weapons is the way to solve the triple problems of existing chemical weapons capabilities, their use, and their further spread."

Neither controls on exports nor a nonproliferation treaty will stop the spread of chemical weapons. Export controls will not prevent countries that already possess chemical industries from developing at least some chemical warfare agents. Nor is it possible to control all of the chemicals that could be used to produce chemical warfare agents because many have legitimate commercial uses. Moreover, a country determined to acquire chemical weapons may be able to evade export controls entirely, either by setting up front companies or by dealing with unscrupulous chemical traders or manufacturers.

At best, export controls will make it more difficult and costly for countries to acquire chemical weapons and may warn supplier countries that others are trying to produce these weapons. As a U.S. government official acknowledged in 1984, export controls "can achieve valuable objectives, such as the disruption of a given state's plans to produce CW [chemical weapons] quickly for immediate use in battle and the imposition of higher economic costs on such a state. But no export control policy can erect an insurmountable barrier against acquisition or at-home production of CW."

Political obstacles rule out a chemical nonproliferation treaty. Developing countries oppose the creation of another discriminatory arrangement, similar to the Nuclear Non-Proliferation Treaty, which would allow existing members of the club to retain their chemical weapons but prohibit the "have-nots" from acquiring them. Western countries view efforts to conclude a nonproliferation agreement as a distraction from the negotiations in Geneva aimed at banning chemical weapons altogether. As the U.S. ambassador to the Geneva negotiations, Donald Lowitz, explained in 1986, "The focus of our efforts is and must remain a comprehensive agreement that eliminates forever the scourge of these terrible weapons."

The Best Solution: A Weapons Ban

A treaty banning the development, production, possession, transfer, and use of chemical weapons remains the best potential way to stop the proliferation of chemical weapons. Even if all existing members of the chemical club are not parties to such a treaty, it will still provide invaluable benefits. First, a binding international ban will delegitimize chemical weapons. It will thus reverse the perception, arising largely out of the widespread use of poison gas in the Gulf war, that chemical weapons are acceptable instruments of military power.

Second, a ban will enhance ongoing efforts to prevent developing countries from acquiring the precursor chemicals and related technical assistance neces-

sary to produce the weapons. As the Libyan plant at Rabta has shown, the voluntary export controls have in many cases been insufficient or poorly implemented and enforced. The chemical weapons ban being negotiated in Geneva will commit countries not to assist others in acquiring a chemical weapons capability. Because signatories will assume a binding legal obligation not to provide such assistance, this commitment is much more likely to be implemented and enforced.

Third, a treaty banning chemical weapons will provide a legal basis for action against countries that produce chemical weapons. Under existing international law, the cornerstone of which is the 1925 Geneva Protocol, the use, but not the possession, of chemical weapons is proscribed. The ban currently under negotiation will make both the production and possession of chemical weapons illegal. It will thus provide the international community with a strong legal basis for

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dealing with activities, such as those in Libya, that threaten to undermine peace and security.

Fourth, a ban will enhance the prospects that action will be taken against countries that use chemical weapons. The failure of the U.S. government, along with the rest of the international community, to react forcefully to Iraq's repeated and widespread use of chemical weapons against Iranian military forces and its own Kurdish population was one of the many tragedies of the Gulf war. A chemical weapons ban would dramatically strengthen the international norm prohibiting the use of chemical weapons, thus making economic and military sanctions against countries that violate this norm more defensible and and therefore probable.

Fifth, a ban would prevent the many countries that are capable of producing chemical weapons, but have not yet done so, from taking this step. The spread of chemical weapons has so far been concentrated in Asia and the Middle East. Even if specific countries in these regions choose not to sign the treaty, much will have been gained by preventing chemical weapons from spreading to other countries and other regions. The Nuclear Non-Proliferation Treaty may be a useful analogy. Although certain key states refused to sign it, the treaty has nonetheless strengthened the international norm against the spread of nuclear weapons. Clearly, the treaty has not prevented a handful of countries from continuing to pursue their nuclear ambitions. Yet without it, John F. Kennedy's fear of 15 or 20 nuclear powers by 1975 might well have been realized. Similarly, without a chemical weapons convention, the world may face a situation a decade or so from now in which many more countries possess chemical weapons.

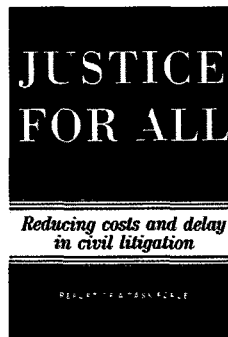
In the final analysis, policymakers in the United States must address one question: Should a handful of Asian or Middle East states that choose to retain their chemical weapons be allowed to deny this country, and the rest of the world, the obvious benefits that would flow from a chemical weapons ban? The answer to this question undoubtedly should be based on the answer to a related question, namely, does the existence of a U.S. chemical weapons arsenal deter developing countries from undertaking chemical weapons activities? On this point, it seems clear, there can be little debate. Recent experience has shown that U.S. chemical weapons do not deter developing countries either from acquiring chemical weapons or from using them against one another.

Nor does the United States need chemical weapons to deter the use of such weapons against the United States. The array of advanced conventional weapons in the U.S. arsenal can be used to deter and, if necessary, respond to any chemical threats by a developing country. The United States, therefore, has little to lose, and much to gain, from the conclusion of a treaty banning all chemical weapons.

Cutting Costs of Civil Justice

Justice For All: Reducing Costs and Delay in Civil Litigation

Report of a Task Force
\$5.95 paper



The American system of civil justice is under attack: from clients who believe that their cases take too long to come to trial and cost too much; from federal and state legislators who hear these complaints from their constituents; from judges who must manage the system; and from many attorneys as well.

At the suggestion of Senator Joseph R. Biden, Jr., the chairman of the Senate Judiciary Committee, Brookings and the Foundation for Change convened a task force of authorities from throughout the United States to develop a set of recommendations

to alleviate the problems of excessive cost and delay. The task force comprised leading litigators from the plaintiff's and defense bar, civil and women's rights lawyers, attorneys representing consumer and environmental organizations, representatives of the insurance industry, general counsels of major corporations, former judges, and law professors.

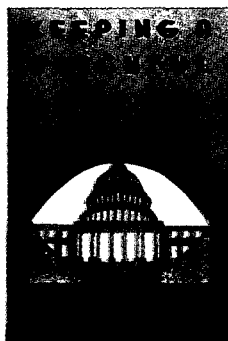
The product of the group's efforts, this report concentrates on the flaws in and solutions for the federal civil justice system. Its main recommendation is that Congress should direct each federal district court to develop a "Civil Justice Reform Plan" to impose greater discipline on both attorneys and judges. The report discusses several concrete measures that should be included in these plans. The task force also suggests actions that both clients and their attorneys can take to reduce costs and speed the process.

Although the report deals only with federal courts, its analysis and conclusions may apply to many states and localities. Indeed, reforms already adopted in state and municipal courts served as models for specific recommendations advanced by the task force.

Capitol Hill Watchdogs

Keeping a Watchful Eye: The Politics of Congressional Oversight

Joel D. Aberbach
\$28.95 cloth



Congressional oversight activity has increased dramatically since the early 1970s. Congressional committees now spend more of their time holding hearings to review the activities of federal agencies, and committee staff members are busy collecting information about what goes on during program implementation.

In his new book, *Keeping a Watchful Eye*, Joel D. Aberbach examines the reasons behind the surprising growth of congressional oversight. Using original data collected for this project, he documents the

increase in oversight activity and links it to changes in the political environment. He explores the political purposes served by oversight, the techniques Congress uses to uncover information about the activities of the federal bureaucracy, and the reasons why topics get on the oversight agenda. Aberbach concludes that even though the U.S. government system was not designed with a large administrative apparatus in mind, the government's ability to expose bureaucratic behavior to public scrutiny is impressive, and that Congress plays a vital role in this endeavor.

Aberbach, a former senior fellow in the Brookings Governmental Studies program, is professor of political science and director of the Center for American Politics and Public Policy at the University of California, Los Angeles.

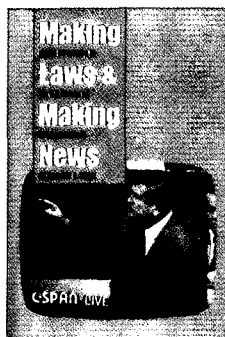
News as a Legislative Tactic

Reporters, especially TV reporters, have become commonplace fixtures on Capitol Hill in the last 20 years. But does presence mean influence, and if so, what kind and how much? Some observers have argued that attention from the news media is turning legislative workhorses into publicity-seeking show horses. Others contend that, for most of the members, press exposure is so limited as to be almost meaningless.

In *Making Laws and Making News*, Timothy E. Cook describes a more interactive relationship between press and Congress that may have a strong effect on the news, the legislative process, and the kinds of laws enacted. Instead of focusing on how reporters decide who and what to cover, Cook examines the other side of the equation — what is the relationship between the media strategies of House members' press offices and the legislative strategies of the members themselves? He discusses the structure of the congressional press corps, local versus national media, print versus broadcast, and re-election campaigns.

Cook concludes that making news and making laws have become different but complementary parts of the same process. The prominence in the news of some House members and the issues they champion helps shape legislative agendas and ease the progress of certain bills through Congress. Cook sees media strategies increasingly as extensions of legislative strategies and explores the ultimate effect on the quality of laws made.

An American Political Science Association Congressional Fellow in 1984–85, Cook is associate professor of political science at Williams and research fellow and visiting associate professor in the Lombardi Chair at the Joan Shorenstein Barone Center on the Press, Politics and Public Policy in Harvard's Kennedy School.



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